40 WAYS TO MAKE YOUR MAC FASTER



MACS!

ALL YOUR QUESTIONS ANSWERED

How Fast Are They *Really?*

Will They Run My Software?

What's Next for Apple?



图 资 學 學 遇 题 奥



iLife '06 and iWork '06

New Web Tools, Easier Image Editing



Watch your iPod. Introducing the new iPod. The world's best way to enjoy music now lets you enjoy







Photos

TV shows

Music videos



The Xerox Phaser® 7750 network printer gives And at 35 color ppm, it's sure to make your heart

The color is truly stunning, and the speed simply breathtaking. That sums up the Xerox Phaser 7750 tabloid color laser printer. It not only prints 35 ppm in black and white, it prints

just as fast in color. And it can deliver up to an incredible 1200 dpi. Its single-pass laser technology prints up to 11x17 full bleed. Color is Pantone-approved, too, for accurate proofing.



you color so vivid, you're naturally drawn to it. flutter. Xerox Color. It makes business sense.

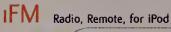
What's more, PhaserMatch™ 3.0 color management software ensures the colors you want are the colors you get. For more about our full line of Xerox network



printers, digital copiers and multi-function systems, just call us or visit our website today. We'll be happy to provide you with the stunning details.

XEROX_®





\$49.99



- · Digital auto station scan with wraparound
- 6 station presets per ban
- Handy equalization toggle, available in Remote Mode.



AirClick RF Remote Control for iPod

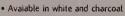
\$39.99



- Compatible with the new iPod with Video as well as older 4th Generation iPod and iPod photo
- · Attaches directly to bottom of iPod using Dock Connector



RoadTrip FM Transmitter, Charger, and Cradle for iPod \$89.99



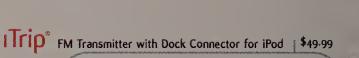
- Compatible with iPod nano & 5th generation iPod
 Transmitter can then be set to broadcast iPod's music to any FM frequency from 88.1 to 107.9.



SmartDeck Intelligent Cassette Adapter for iPod Control iPod navigation through your car stereo

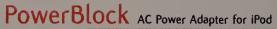


- Intelligent level control for optimal input levels
 Constructed of the highest quality components
 Seamless integration between iPod and car stereo





- Compatible with iPod nano & 5th generation iPod
 Attaches directly to bottom of iPod using Dock Connector
 Easy to read backlit LCD screen makes setting its
- digital tuner easy and intuitive



\$29.99

\$29.99

96.3



- Compatible with iPod nano & 5th generation iPod
- Plugs into any wall outlet



buy now at: www.griffintechnology.com



March 2006 www.macworld.com Machworl

COVER STORY

The Intel Mac FAQ

JONATHAN SEFF AND JASON SNELL

Now that Apple has released the first two Intel Macs, here's everything you need to know about the transition, the MacBook Pro, and the Core Duo iMac, as well as the results of our first tests of the Intel-based desktop.

FEATURE

50 The Ultimate Mac Tune-Up

> Thanks to Apple engineering, your Mac's performance is pretty well tuned right out of the box. But there are plenty of little things you can do to speed up your Mac just a bit; together, these tweaks can add up to noticeable improvement. Here are our secrets for making your system feel snappier.





On the Cover Hardware photographs by Peter Belanger; wedding photographs by Anja Ulfeldt



OPINION

From the Editor's Desk

JASON SNELL

All aboard the Intel roller coaster!

Feedback

Readers respond.

REVIEWS

28 Pro digital-imaging application

♦♦♦ Aperture

29 **Brainstorming tools**

*** ConceptDraw Pro V 5.2

ttal Curio 2.4 Professional Edition

bb DevonThink Pro 1.0.2

* MacJournal 3.2.1

NoteBook 2.0

OmniGraffle 4.1 Professional

OmniOutliner 3 Professional

♦♦♦ StickyBrain 4.0 VoodooPad 2.5

36 **More Reviews**

39 iPod Gear



Game Room 40

PETER COHEN

Reviews of Gangland, SpongeBob SquarePants: The Movie, Busy Days in Deerfield Valley, Stubbs the Zombie, Care Bears: Catch a Star, and the PC Con Wireless game controller.

44 Mac Gems **DAN FRAKES**

> Get more information from Dock icons, use the keyboard to invoke Mail rules, get your photos off an iPod and onto a Mac, and more.

48 **Top Products**





MacWorld March 2006

MAC BEAT

iLife '06, iWork '06, the Macworld Conference & Expo Best of Show awards, iTunes 6.0.2, the iPod Radio Remote, and more.





The Virtual CD

readers also have free access to a new virtual CD-ROM ch month. To view this month's exclusive content, go to the following LIRL (broadband later). each month. To view this month's exclusive content, go to the following URL (broadband Internet recommended): http://cd.macworld.com/2006/03/all-base



SECRETS

68 **WORKING MAC**

Merge Data and Save Time

HELEN BRADLEY

Whether you're creating name tags or preparing promotional letters for clients, Microsoft Word's handy data-merge tools can ease the job.

70 **PLAYLIST**

Multiple iPods and Computers

MATT VANCE

Looking to share your music library among multiple computers? Got a multi-iPod family and one Mac? We'll show you how to keep everything in sync.

74 **DIGITAL PHOTO Optimizing Photoshop CS2**

SHANGARA SINGH

Improve Adobe Photoshop CS2's performance by spending just a few minutes fine-tuning it.

76 **CREATE** Send Video Abroad

ANTON LINECKER

Before you take your movie global, you have to convert it to the right format. With Compressor 2, you can do the job yourself.

78 MOBILE MAC Big File, Slow Connection JOE KISSELL

You need to get that file to your client (and pronto!), but it's too big to e-mail. No sweat here's how to send files in almost any situation.

80 **GEEK FACTOR**

Take Command of Permissions

DAVID POGUE AND CHRIS STONE

The command line is often the fastest way to control your Mac—especially when it comes to pesky file permissions.

82 **HELP DESK** Mac OS X Hints

ROB GRIFFITHS

Make Spotlight search more quickly, add scroll bars to Stickies notes, and much more.

86 Mac 911

CHRISTOPHER BREEN

Stop Mail from automatically entering the wrong e-mail addresses, resuscitate your SuperDrive, make your iPhoto slide shows fit on TV, and more.

112 **Hot Stuff**

Check out our favorite new stuff.





Give your administrative paperwork new life with the Fujitsu ScanSnap $^{\text{TM}}$ Paper Manager for Macintosh $^{\text{TM}}$. Its 50-page automatic document feeder quickly transforms a stack of paper into useful, easy-to-manage electronic files. It transforms double-sided documents into PDFs with one-button ease and automatically transforms documents into email attachments for faster, surer delivery than faxing. All on a scanner footprint smaller than a sheet of paper. Add Advance Exchange ownership protection for worry-free service.

Now, that is a thing of beauty. Call 800-831-8094 ext.9689 or see it in action now at www.fcpa.fujitsu.com/9689

Adobe Acrobat 7.0 Standard - Included









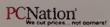
THE POSSIBILITIES ARE INFINITE

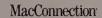
© 2006 Fujitsu Computer Products of America, Inc. All rights reserved. Advance Exchange upgrade of \$59 is sold separately and is not included in the \$495 cost. Service program and ScanSnap prices are subject to change. Fujitsu and the Fujitsu logo are registered trademarks of Fujitsu Ltd. ScanSnap and Advance Exchange are trademarks of Fujitsu Computer Products of America, Inc. Adobe, the Adobe logo and Acrobat are either registered trademarks or trademarks of Adobe Systems. Inc. in the United States and/or other countries. Mac and the Mac logo are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. All other trademarks are the property of the their respective owner.







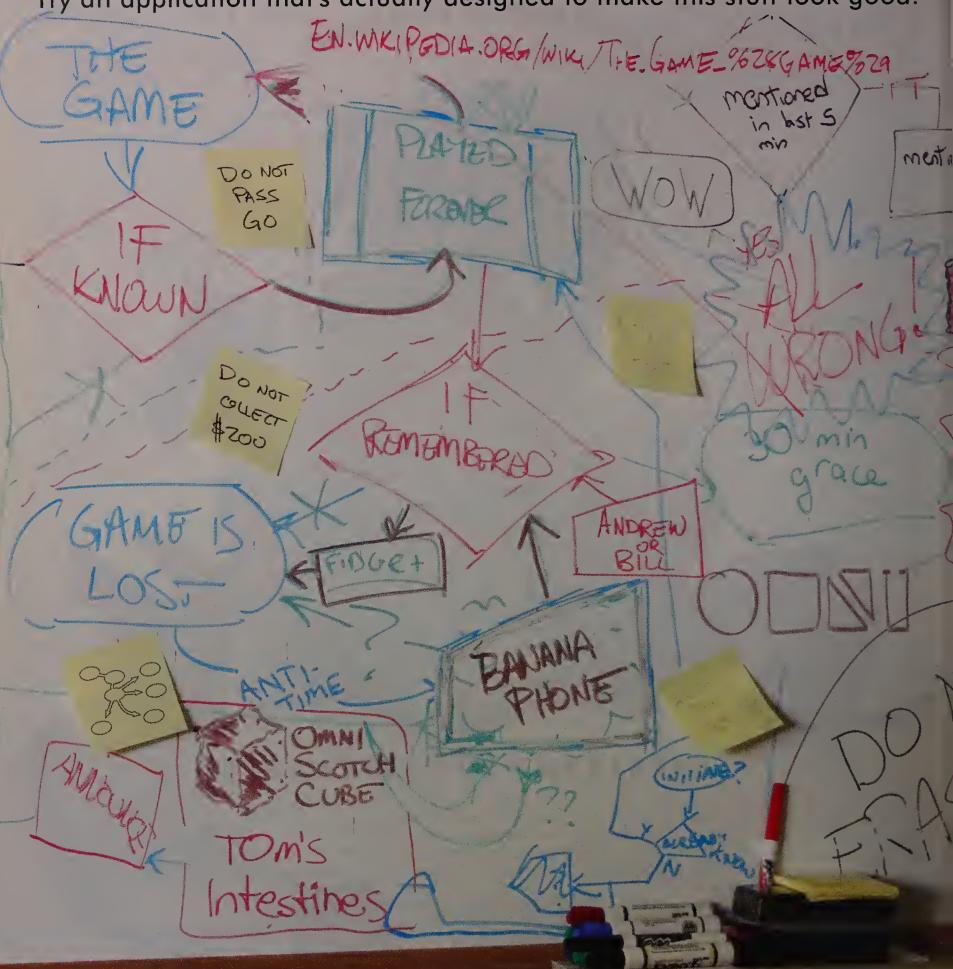






Having trouble getting your point across?

Try an application that's actually designed to make this stuff look good.



omnigraffle 4

Powerful diagramming and drawing made easy Download a free trial of the brand new version at www.omnigroup.com/macworld03



The Intel Roller Coaster

Keep your hands and arms inside the vehicle, everyone. After six months of slowly ratcheting anticipation, we've finally reached the top. And a yearlong Intel roller-coaster ride is about to begin.

The first Intel Macs have arrived, kicking off a year of new product rollouts the likes of which Mac fans haven't seen since . . . well, maybe since ever. And by the end of the year, the Mac product line will be like nothing we've ever seen before.

Twice as Fast?

Let's start with the new iMac, powered by Intel's Core Duo processor. For the first time, iMacs are powered by two processors. Apple claims that, as a result, the system is twice as fast; our own real-world tests don't bear those claims out (see "The Intel Mac FAQ," page 60), but they do show a performance boost—without an accompanying price hike.

The speed of these new Intel-based Macs will depend in part on the software you're running. Mac OS X 10.4.4 itself, all of the Apple apps that come bundled with it, and the iLife and iWork software suites are all already Universal—meaning they'll run natively on both PowerPC- and Intel-based Macs. Numerous other developers have also released Universal updates for their programs.

But if you're running software that hasn't been recompiled for Intel-Microsoft Office and Adobe Photoshop come immediately to mind—your Intelbased iMac will have to translate that program's code from PowerPC to Intel, on-the-fly. Such programs should work just fine on these new machines—but definitely more slowly than on their PowerPC predecessors. Apple's announcement that Final Cut Pro, Aperture, and Logic Pro will be available in Universal form in March is good news. A Universal version of Photoshop will be even better news.

Good-bye, PowerBook

Of course, I would guess that most iMac users rely primarily on the programs bundled with their systems, all of which are now Universal. That's one reason technology pundits had been predicting that Intel chips would first appear in consumer systems, such as the iMac or iBook.

So we were half right. In addition to coming out with the Intel-based iMac, Apple introduced the 15inch MacBook Pro, a PowerBook replacement powered by a similar Intel Core Duo processor.

As a laptop user, I'm excited about the MacBook Pro—but I've also got a thousand questions. Unfortunately, we won't be getting any answers until the MacBook Pro ships (Apple says February). Apple claims that the new laptop will be four times faster than the PowerBook; unlike the iMac, the MacBook Pro is (thanks to the Core Duo CPU, improved bus and RAM speeds, SATA storage, and PCI Express video) a potentially major improvement on the system it's replacing.

As someone who totes an iSight on trips so I can video-chat with my family, I'm also happy that these new laptops come with a built-in video camera. And by adding Front Row, Apple has created a portable set-top box: you can plug a MacBook Pro into a TV and run it, lid closed, from across the room.

I'm also looking forward to the magnetically connected MacSafe power adapter. My kids have yanked on my PowerBook's cord so many times, it's amazing I haven't had to replace the machine a dozen times over. But I'm also groaning about the obsolescence of yet another generation of Apple power adapters.

Meanwhile, fans of Apple's 12- and 17-inch Power-Books may wonder when they'll be invited to the Intel party. If the past is any indicator, it's likely that, once the 15-inch MacBook Pro finds its sea legs, larger and smaller versions will follow. Let's hope so.

What's Next?

So where do we go from here? The iBook's days are no doubt numbered; given the announcement of the MacBook Pro, can a plain old MacBook be far behind? Meanwhile, the Mac mini is looking a bit long in the tooth. I wouldn't be surprised to see those two models replaced soon. Only the Power Mac might hang on for a while, given its users' reliance on high-performance professional software that simply must be Universal before they can switch.

Yes, 2006 is going to be an exciting ride. There will be new Intel-based Macs around every corner. Some of the twists and turns will be exhilarating, while others might end up making some of us feel a bit queasy. But however you look at it, it's going to be one heck of a ride.

What do you think? Will you be buying a new iMac or a MacBook Pro as soon as you can? Or are you waiting for your apps to be "Universal-ized"? Let me know in our forums (macworld.com/forums) or send me an e-mail at jason_snell@macworld.com.

www.macworld.com

Introducing the all-new SOHO Organizer



The most powerful personal and business productivity suite available for Macintosh. For single or multiple users.

A suite of four tightly integrated applications

The smartest way to manage and share contacts on Mac OS X. Attach unlimited call logs, follow-up appointments, tasks, notes and documents to your contacts. Universal synchronization lets you transfer contacts, calendars and notes to your Palm handheld, iPod, cell phone, etc.

SOHO Calendars

SOHO Contacts



The easiest way to share calendars on Mac OS X. Shared calendars show up automatically in Apple's iCal. Create a company calendar and watch as changes made on one user's machine automatically show up in everyone else's iCal. Great for meetings, group projects and shared to-do lists.

SOHO Notes



The premier digital note-taking application for Macintosh. Use it to capture, organize, and share all of your personal and workgroup information. It can store rich text, pdf's, images, files, movies, audio, bookmarks, and web archives. Synchronize notes between multiple computers, iPods and Palm handhelds.

SOHO Print Essentials



The fastest way to produce professional-looking documents. Use it to design and print labels, envelopes, letterhead, fax covers, invoices, address books, etc. Mail merge is a snap. With its amazing design tools, you can easily customize your documents with company logos, graphics, fonts, etc.

SOHO Organiz	er		\$99
Upgrade			\$49
Trial Version			FRE

sohoseries.com



Macwor

President Rick LePage Editorial Director Jason Snell Executive Editor Dan Miller Executive Editor, Online Philip Michaels Macworld.com News Director Jim Dalrymple

Senior Editor, Features Kelly Turner

Senior Editor, How-to Scholle Sawyer McFarland Senior Editor, News Jonathan Seff Senior Editor, Reviews Jennifer Berger

> Senior Editors Christopher Breen, Peter Cohen.

Rob Griffiths Lab Director James Galbraith

Senior Associate Editor Jackie Dove Assistant Editor Cyrus Farivar

Contributing Editors Adam C. Engst, Jim Heid, Ted Landau, David Pogue,

Managing Editor Charles Purdy Managing Editor, Online Curt Poff Assistant Managing Editor Sue Voelkel

Copy Editors Marla Miyashiro, Gail Nelson-Bonebrake

Production Consultant Jennifer Werner

Art Director Rob Schultz Designers Lori Flynn, Carli Morgenstein

Contributing Photographer Peter Belanger

HOW TO CONTACT MACWORLD SUBSCRIPTION SERVICES

Access your subscription account online—24 hours a day, 7 days a week—at www.macworld.com/customer_service or http://service .macworld.com. You can use online subscription services to view your account status, change your address, pay your bill, renew your subscription, report a missing or damaged issue, get the answers to frequently asked questions, and much more.

To start subscribing, visit http://subscribe.macworld.com

Macworld Subscriptions Department P.O. Box 37781, Boone, IA 50037-0781 (If you are writing about an existing account, please include your name and address as they appear on your mailing label.)

subhelp@macworld.com (Send your full name and the address at which you subscribe; do not send attachments.)

Fax 515/432-6994

800/288-6848 from the United States and Canada; 515/243-3273 from all other locations

The one-year (12-issue) subscription rate is \$34.97; the two-year rate, \$59.97; and the three-year rate, \$79.97. Foreign orders must be prepaid in U.S. funds; add \$10 per year for postage to Canada or \$25 per ear for air freight to all other countries. Checks must be made payable in U.S. currency to Macworld. Please allow 3 to 6 weeks to receive your first issue or for changes to be made to an existing subscription.

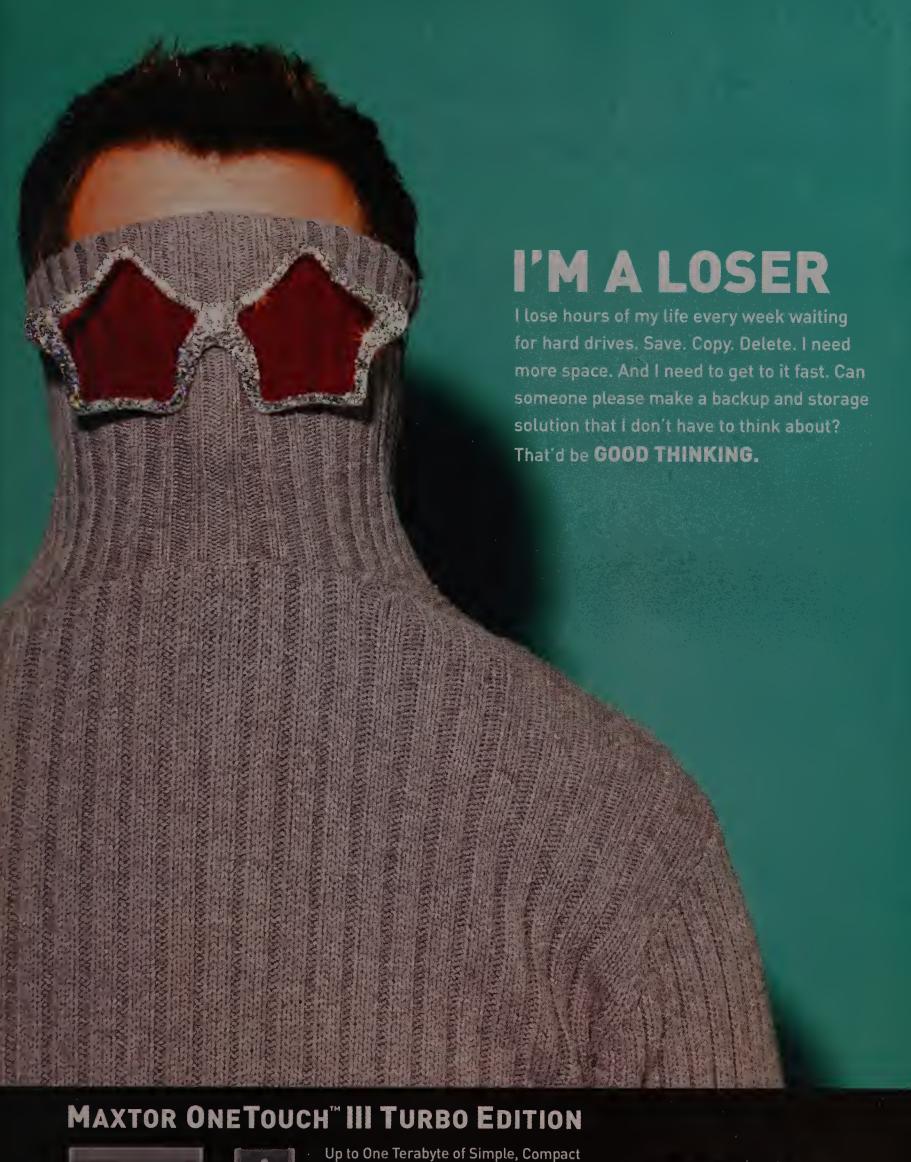
MACWORLD EDITORIAL

The editors of Macworld welcome your tips, compliments, or complaints. Some stories and reviews from past issues can be located at www macworld.com. We are unfortunately unable to look up stories from past issues; recommend products; or diagnose your Mac problems by phone, e-mail, or fax. You can contact Apple toll-free, at 800/538-9696, or visit the company's Web site, at www.apple.com. For editorial and advertising contact information, please turn the page.

March 2006, Volume 23, Issue 3

Macworld is a publication of Mac Publishing, L.L.C., and International Data Group, Inc. Macworld is an independent journal not affiliated with Apple Computer, Inc. Copyright © 2006, Mac Publishing, L.L.C. All rights reserved. Macworld, the Macworld logo, Macworld Lab, the mouse-ratings logo, MacCentral.com, PriceGrabber, and Mac Developer Journal are registered trademarks of International Data Group, Inc., and used international Data Group, Inc., and used under license by Mac Publishing, L.L.C. *Apple*, the Apple logo, *Mac*, and *Macintosh* are registered trademarks of Apple Computer, Inc. Printed in the United States of America. logo, Mac, and Macintosh are registered trademarks of Apple Computer, Inc. Printed in the United States of America.









RAID 0 High Performance Storage or RAID 1 Automatic Data Redundancy.

Good Thinking at Maxtor.com/Turbo

Maxtor

Stop spam before it reaches your mailbox.



Spamphibian turns any Macintosh OS X computer into a reliable and efficient SMTP proxy that protects your company or organization from unwanted spam, viruses, phishing scams, and more. Frequent updates are automatically sent to Spamphibian so your network is always protected with the latest spam and virus profiles. To learn more, visit our website.



Outspring Incorporated 707-523-7711 www.outspring.com

©2006 Outspring, Inc. All rights reserved. Spamphibian a trademark of Outspring, Inc.

Macworld

VP, Publisher Janet Ryan (415/243-3505)
Eastern Advertising Director Paul Bonarrigo (508/533-4020)
Eastern Advertising Manager Paul Zampitella (781/944-0528)
Western Advertising Managers Scott Williams (415/243-3509), Kent Wu (415/978-3341)
Account Managers Carol Johnstone (415/243-3664)
Niki Stranz (415/243-3664)

Online Ad Coordinator Kenji Kawakami (415/243-3628)
Sales Associate Jessica Hemerly (415/243-3575)
Marketing Manager Kasey Galang (415/243-3642)
Executive Asst, to the President Deanna Mills (415/243-3536)

Production Director Steve Spingola
Prepress Manager Tamara Gargus
800king and Billing Manager Ricardo Sandoval

Development Manager, Online Aaron Jones
General Manager, Online Ulla McGee
IT Manager Jacob Clingerman

VP, Human Resources Kate Coldwell
Human Resources Manager Carina Rivera
Human Resources Representative Jenny Steele

VP, Consumer Marketing
Newsstand Director
Associate Circulation Director
Director, Retention Marketing
Retention Marketing Coordinator
Senior Subscription Marketing Manager
Subscription Marketing Manager
Subscription Marketing Manager
Simon Thaler

HOW TO CONTACT MACWORLD STAFF

Our offices are located at 501 Second Street, 5th Floor, San Francisco, CA 94107; phone, 415/243-0505; fax, 415/243-3545. *Macworld* staff can be reached by e-mail at *firstname_lastname@*macworld.com.

LETTERS TO THE EDITOR

Send comments about any aspect of Macworld to letters@macworld .com. Due to the high volume of mail we receive, we can't respond to each letter. We reserve the right to edit all submissions. Letters published in Macworld or Macworld.com become the property of Mac Publishing.

MAC 91

Send your questions or tips on using Mac computers, peripherals, or software to *Macworld, Mac* 911, 501 Second Street, 5th Floor, San Francisco, CA 94107; fax 415/243-3545; or e-mail mac911@macworld.com. Include your name, address, and phone number. To share tips and discuss Mac problems with other Mac users, visit the Macworld.com forums.

BACK ISSUES OF MACWORLD

Starting with the March 2003 Macworld, back issues can be downloaded in digital format, from www.zinio.com (\$6.99; Mac OS X 10.1 or later required). Print-format back issues (subject to availability) cost \$8 per issue for U.S. delivery, \$12 for international delivery; prepayment in U.S. currency to Macworld is required. Send a check or money order to Macworld 8ack Issues, P.O. 8ox 37781, 8oone, IA 50037-0781; or phone 800/288-6848 (U.S. and Canada) or 515/243-3273 (all other locations).

REPRINTS AND PERMISSIONS

You must have permission before reproducing any material from Macworld. Write to Macworld, Reprints and Permissions, 501 Second Street, 5th Floor, San Francisco, CA 94107; include a phone number. To order reprints of your company's editorial coverage, call Reprint Management Services at 717/399-1900; fax 717/399-8900; or e-mail macworld@reprintbuyer.com.

MAILING LISTS

We periodically make lists of our customers available to mailers of goods and services that may interest you. If you do not wish to receive such mailings, please write to us at Macworld, P.O. Box 37781, 80one, IA 50037-0781, or e-mail us at subhelp@macworld.com. Please include a copy of your mailing label or your full name and address.

MACWORLD CONFERENCE & EXPO

As the flagship sponsor of Macworld Conference & Expo, Macworld encourages all subscribers to attend this exciting annual industry event. For information, please visit www.macworldexpo.com.

₩BPA

eNook

the new Wall-Mounted Charging Workstation





a Gas Station for your Gadgets and a Work Space for you

It charges, it stores and it fits where you don't have a lot of room. It's called eNook, and it's a very multi-talented workspace. eNook has channels for you to plug in and charge all of your electronic gadgetry, like your laptop, cell phones, PDAs and digital cameras. Flip it up to store your laptop and lock it out of sight. Or flip it down and you have a handy desk. eNook's fabric covered back panel even serves as a bulletin board. Choose different color and fabric combinations to match any décor. Hey, it looks like your gear just found a home.

Contact our friendly and knowledgeable folks at 800.325.3841 or anthro.com/eNook.

ANTHRO
Technology Furniture®
- Fast and Friendly!



FEEDBACK

FireWire Firestorm

Hard drives aren't exactly thrilling. They're about as utilitarian as technology gets—the sensible shoe or the high-fiber cereal of the peripherals world. But ask Macworld readers what they plan to buy in the next year, and "storage" is likely to top their lists. That helps explain why our December roundup of FireWire hard drives was one of that issue's most popular stories, a hot topic in our online forums (macworld.com/forums), and the leading subject line in the Feedback inbox. 🗆

Drives, You Said

GARY SABO

There was something in your review of FireWire hard drives (December 2005) that I found misleading. In one of the tables, you provided the price per gigabyte for a variety of desktop drives. But that table included, among other drives, a 320GB model from Newer, a 250GB from LaCie, and an 80GB from MicroNet. Larger drives will always have a lower cost per gigabyte than smaller ones. So while the cost of the 250GB MicroNet is \$0.80 per gigabyte, the cost of the 80GB Newer is \$1.75 per gigabyte. Yet in your list of cons for the MicroNet, you included "high cost per gigabyte." To be fair, you should have compared apples to apples (no pun intended).

JASPER RANDALL

Imagine my excitement upon opening my crisp new Macworld to find an article comparing FireWire hard drives. Then imagine my utter amazement and deep disappointment to find that a hard drive you've previously recommended in your Top Products section—the LaCie d2 Extreme—was missing from the roundup.

The d2 Extreme was, in fact, one of our favorite desktop FireWire drives for many months. But LaCie discontinued the product shortly before we compiled the roundup and, at that time, had not yet replaced it with a more up-to-date model. You can find our review of the LaCie d2 Hard Drive Extreme at macworld.com/1013.—Ed.

TONY WARD

In your review of FireWire hard drives, you neglected to mention an alternative to buying a new drive: buying a bare IDE

drive and installing it in an external case yourself. These days you can get a majorbrand 200GB IDE drive for around \$100. You can buy an external, dual-connection (FireWire and USB 2.0) case for \$40 or less; single-connection cases go for as low as \$20. That's about \$0.70 per gigabyte well below many of the drives in your review. And it's easy to upgrade the drive when you need more storage.

All the Gear That Fits

MIKE BEDGOOD

"Macworld's Gear Guide" (December 2005) was great, but I do have one complaint: most of the iPod accessories you included can't be used on fifth-generation iPods, which were reviewed in the same issue. As that review states, Apple changed the iPod's ports, making many third-party accessories obsolete. But your "Gear Guide" gave no warnings about which accessories would work with which iPods.

WARREN RIESS

In your December "Gear Guide," story, you referred to Blow Off Duster as a can of compressed air. Blow Off is a great product, but it actually uses tetrafluoroethane, not air. It should be used only in a well-ventilated area and should not be sprayed on a surface hotter than 120 degrees Fahrenheit (such as warm computer innards); you can get more information at macworld.com/1038. Dust-Off and Canned Air are similar products that also are tetrafluoroethane. All are useful but should be used carefully.

LORENZO QUIJANO

I'm confused. In December's Top Products, you give the 17-inch Westinghouse LCM-17w7 monitor two and a half mice—not a particularly great rating. But a few pages later, in "Macworld's Gear Guide," you recommend it. Which is it?

We included the Westinghouse monitor in our "Gear Guide" article because it's a decent display with a relatively low price. Our rating in the review reflects its performance compared with that of a variety of other monitors at a variety of price points.—Ed.

ROGER HARRISON

It seems odd that you would feature the QX5 Computer Microscope in your December issue, given that the vendor's Web site says it's PC-only.

You're right: that's what the site says. But at the time we wrote that story, the QX5's vendor offered free, downloadable Mac software for the microscope. Unfortunately, between the time we wrote the story and the time it appeared in print, the company started charging \$12 for it.—Ed.

Good Riddance, Beantown

SEAN HITE

In response to your story about the demise of Macworld Expo Boston ("Farewell, Boston," Mac Beat, December 2005): As a Mac user who has attended the East Coast Macworld Expo since the early Boston days, I have to say that the last two years, since the move from New York back to Boston, have been a joke. Both shows should have been called "iPodworld," not Macworld. How can an event be called Macworld when the no-shows include # Apple, Microsoft, Adobe, FileMaker, and HP? The list goes on and on. This year I did find a nifty iPod purse thingy for my wife and an excellent lower-back lumbarsupport device for myself.

continues

Dress it, Express yourself.

for BlackBerry, Cisco, Creative, Nintendo, ROKR, Sony, Sanyo, Treo



zCover cases are crafted from durable, washable, high quality silicone rubber.

The colors of zCover cases neither fade nor peel off, as they are blended prior to molding.

zCover protects your cherished gadget from dust, dirt and liquids. It also prevents scratching and other possible damages without obstructing the beauty of the gadget.



Introducing Internet phone service from the Internet experts.





With EarthLink's new trueVoice, you get more from your phone service - and pay less.

For only \$24.95 a month, you get:

- Unlimited local and long-distance calling in the continental U.S. and Canada.
- Premium calling features like voicemail, caller ID and call waiting no extra charge.
- First month of service FREE!

All you need is a high-speed Internet connection and your regular phone handset. Then we'll provide the rest, including award-winning service and support.

Call 1-866-ELNKVoice to sign up or go to www.earthlink.net/voice.

Be It Resolved

WESLEY FERGUSON

In his From the Editor's Desk column in the December issue, Jason Snell reports that videos viewed on the iPod are shown at "320 by 240 pixels, roughly half the resolution of standard TV." But on page 19 of that same issue, in his review of the same iPods, Christopher Breen reports that the new screen has "one quarter the resolution of standard-definition TV." Will there ever be a resolution to the meaning of resolution?

Good catch. Jason was comparing linear dimensions, and Christopher was referring to overall area; we'll keep a sharper eye out for such discrepancies in the future.—Ed.

Macworld on Your Side

KEVIN MACKAY

I thought you would like to know how your magazine can really make a difference in your readers' lives. I came across an article, in the December issue, by Jim Dalrymple about scratched and broken

screens on the iPod nano ("Nano Problems," Mac Beat, December 2005). In the article, Dalrymple noted that a call to AppleCare would rectify the problem. As luck would have it, my son's nano screen had cracked about two days before I read your story. I called AppleCare and was told that I would have to bear the cost of repairing the nano, as the screen wasn't covered under the warranty. I pulled out your magazine and began reading the article to the representative. Once I mentioned the name of a certain Apple vice president quoted in the article, I was put on hold for a couple of minutes and then told they'd replace the nano. You saved my son the cost of a new iPod. I will be renewing my subscription shortly. Thanks.

I'm No Thief

ROBBIE PRESTON

In a letter entitled "Who's the Thief?" (Feedback, December 2005), reader Ken Alan complained about software activation, which is supposed to thwart software piracy. I think that the people who oppose software activation should

remember one rule of life and business in the free world: You have no right to steal someone else's work. Until I sell it or give it away, I am the owner; ownership does not change with theft. No sales, no profit. No profit, no business. No business, no new or upgraded programs. Maybe people who complain about copy protection in software, music, and movies should take the time and create better products. Then, after the pirates steal and use those labors of love, we'll see how those complainers who have made no money for their work feel about making more software.

Post comments on our forums (www .macworld.com); send them by mail to
Letters, Macworld, 501 Second Street,
5th Floor, San Francisco, CA 94107; or send them by e-mail to letters@macworld.com. Include a return address and daytime phone number. Due to the high volume of mail we receive, we can't respond personally to each letter. We reserve the right to edit all letters and posts. All published letters and forum comments become the property of Macworld.



macoeat

WHAT'S NEW | WHAT'S IN THE PIPELINE

Apple Releases iLife'06

Updated Suite Adds Web-Creation Software



BY MACWORLD STAFF

Although Apple released the first two Intel-based Mac models six months ahead of schedule (see "The Intel Mac FAQ," page 60), Steve Jobs spent the biggest chunk of time during his keynote at January's Macworld Conference & Expo in San Francisco introducing the latest version of Apple's multimedia suite. Jobs called iLife '06 "the most exciting iLife upgrade ever," so let's take a look at what's inside.



Speak Your Mind With the new iWeb, anyone can create Web sites and blogs.

iWeb

The biggest news for iLife '06 is the addition of a brand-new application, iWeb, meant for easily creating Web pages and blogs. iWeb is designed specifically for people who don't know and don't want to know about Web design or HTML. It's very easy to use, and it's pretty swift. Placing most items on a page—images, multimedia, and so forth—is a simple, one-click operation. And iWeb is great for people who are already using other iLife apps, because iWeb's Media Browser lets you bring iPhoto, iMovie, and iTunes content into the Web app via a simple click and drag.

iWeb includes 12 templates, but you can alter them with new text boxes, shapes, background images, colors, and stroke effects; with a little effort, you can make the templates look unique. Because the designs are very smart looking, many people will simply use these templates with few changes. But, after all, these are personal sites, so even if there's a lot of stylistic duplication, the content will be unique.

iWeb lets you create a blog (no commenting allowed) with audio or video



Share Your Voice GarageBand's new features make Podcasting easy.

Podcasts. Add a blog page to your Web site, and you're off and running in less time than it takes to type the word Blogger in a Web browser. The app depends on a .Mac account for the one-clickpublishing feature; for people with Web hosting elsewhere, it's not as fluid an operation. iWeb does let you save your site to a folder and upload the HTML files to wherever you want, but you miss out on the much of the experience one-click publishing and enhanced slide shows, for example.

GarageBand 3

GarageBand may have been all about making music, but the latest version's

big addition is a Podcast studio. With nothing more than a built-in microphone or an iSight, you can record a Podcast, using Apple's Speech Enhancer to make it sound as if you were speaking through a professional mike. More than 200 sound effects and 100-plus jingles provide another layer to your Podcast, and a ducking feature automatically reduces music volume when it intersects with a vocal track. You can add artwork to your Podcast as well, and when you're finished, one-button integration with iWeb makes it easy to publish your thoughts.

The new version also lets you use iChat to record interviews. Each guest gets his or her own track, so after a multiperson chat, you'll end up with separate recordings of each participant.

GarageBand 3's other big feature is an iMovie scoring function, which lets you add more than just a simple iTunes track as musical accompaniment to your iMovies.

iDVD 6

One of iDVD's best new features is its ability to author wide-screen DVDs. With so many DV camcorders offering 16:9 shooting modes (and with the prices of HD camcorders, which natively use that aspect radio, dropping), being able to create DVDs that will play the entire picture on wide-screen HDTVs is a big plus. To go along with wide-screen playback, iDVD 6 has 10 new menu themes designed for both wide-screen (16:9) and standard (4:3) aspect ratios.

Magic iDVD provides a simple interface for picking the theme, movies, and photos (as well as audio for slide shows) you want, and iDVD does the rest. It's a nice way to quickly make a custom DVD with cool menus and the like; however, you don't get any control over DVD aspect ratio, slide-show timing, and other specifics. But speaking of slide shows, iDVD 6 now lets you have up to 9,801 images in a slide show—instead of 99, as in previous versions.

And iDVD can now burn to external DVD burners; Apple's has finally removed its artificial burning restriction.

iPhoto 6

If you have a .Mac account, iPhoto 6 lets you share your photos with others by starting a *photocast*; you can use a new



Preserve Your Memories Burn sophisticated wide-screen DVDs with iDVD.

iPhoto feature to publish selected photos as an RSS feed. Anyone with an RSS newsreader or iPhoto 6 can then subscribe to your photocast to see your photos. When you're done uploading, iPhoto presents the URL for your photocast and gives you the option of e-mailing an announcement to others.

Apple has spent a lot of time touting the program's improved performance, and it is noticeably faster—no more long waits when you switch the low-resolution cached views with higher-resolution previews. If you have a large photo library spanning several years, you'll probably appreciate the program's faster scrolling, as well as its new scrolling display. As you click and drag the scroll bar up or down, a translucent black patch displays the date and roll name of the images as they pass. The patch disappears as soon as you release the mouse button.

iPhoto's new full-screen mode lets you focus on your photos while editing. Mousing to the top of the screen causes a browsing panel with thumbnails of your photos to drop down; mousing to the bottom reveals a menu of handy image controls, including a new Effects panel that lets you turn your photo into a monochrome or sepia-toned image, desaturate or add saturation, blur edges, and more.

In addition to creating photo books—which are now printed at higher resolutions—you can use your favorite photos to design cards and calendars.

iMovie HD 6

With iMovie HD 6, Apple has brought more features to its simple video-editing app—some that were a long time coming.

First off, you can now open multiple projects at the same time (something iDVD, however, fails to offer). With more than one project open, you can drag and drop video and audio clips, as well as photos, from one project to another (iMovie will make a copy of the files in the new project's folder, so make sure you have enough hard-drive space). Or you can view two versions of a project side-by-side.

For the first time, iMovie users get a taste of the real-time effect and transition previews that the Final Cut products offer (you'll still need to render them before exporting your finished movie). Although you may not get full-frame-rate previews for many of them,



Tweak Your Vision iPhoto's new full-screen editing mode makes quick work of fixing images.

watching such effects and transitions in the video window instead of a small preview window makes it much easier to decide what you want before you drag your choice to a video clip. iMovie HD 6 also adds real-time titling, with more control over fonts and subpixel rendering for smoother text.

The items in iMovie's new Themes tab provide five of the same themes as iDVD for creating backgrounds, motion graphics, titles, and effects.

UPDATED SUITE HAS NEW FEATURES BUT NO NEW APPS

iWork '06 Emerges



There was some heavy irony in Steve Jobs's keynote at Macworld Expo in January. Despite the fact that his entire presentation used a brand new version of Keynote, the release of the \$79 iWork '06 (of which Keynote makes up one half) merited barely a mention—basically, the "we've got it, so check out our Web site" treatment. But there are quite a few new and improved features in this release of iWork that are worth a look.

Suitewide Improvements

As a whole, iWork takes a nice leap forward. Key new features are free-form shapes, curves, and masks. Many of the shapes in the suite now have adjustable point counts. You can also change the size of the circular center of a star by dragging the small white circular control in its center. Make the circular area smaller, and your star has longer, sharper arms; make it larger, and you'll get short, stubby arms. You can also use any shape you create as a mask for images, leading to all sorts of creative cut-out ideas. (A mask will hide anything in the image that lies outside the area of the shape you're using as the mask.) There's also a free-form curve tool for drawing your own shapes.

Apple has also done a bunch of work on tables, adding calculations to what used to be rows and columns of static numbers.
While iWork is far from Microsoft Excel,

the ability to do some basic math in table cells is a huge time-saver. In addition, you can format table cells to add currency indicators, show a different number of decimals, and insert thousands separators.

New 3-D charts let you add pizzazz while improving your data's readability. Apple has come up with a pretty good interface for controlling the appearance of your 3-D charts, and you can add 3-D effects to bar, column, line, area, and pie charts.

There are also new on-screen imageadjustment tools for brightness, contrast, saturation, sharpness, and more.

Keynote 3

The Keynote update kicks off with Interleaved bullet builds, which give you more **Dreamy Design** New templates give Pages projects a fresh look.

els) instead of just SD resolutions (up to 1024 by 768 pixels).

There are also seven new transitions in Keynote, six of which are 3-D transitions. Two of them, Opening Door and Reflections, are particularly interesting without being too distracting.

Pages 2

As a less mature product, Pages had a lot of room to grow, and Apple did a good job with this release. While the first version of Pages offered a decent selection of templates, there are more than 25 new templates in this version—66 in all now. There are also new categories of templates, including Flyers (five types), Posters (six), Business (four), and Creative (three). One interesting fact is that some templates are automatically tied to your Address Book and controlled through a new Merge tab on the Link panel of the Inspector window. You can pull fields such as name, e-mail, and address, which is a powerful addition, as it makes creating customized documents a snap.

Similar to Microsoft Word, Pages 2 has an Auto-Correction preference pane, which you can use to choose a bunch of typing shortcuts—type (c), for instance, and Pages will insert the copyright symbol. You can not only add and remove shortcuts but also set preferences for smart quotes, capitalization fixes, and e-mail—address and

New 3-D charts give your data pizzazz and improve readability.

control over bullet usage—for instance, you can have an image appear and then vanish after a bullet. A new check box allows you to insert additional actions between slide bullets.

In addition to the existing Keynote themes, the new release adds six new themes, two of which—White Corners and Modern Portfolio—are available in HD resolutions (up to 1920 by 1080 pix-

Web-address detection.

The Pages sidebar shows a thumbnail of each page in your document. In the new release, this feature has been improved to show facing pages as they would be printed. This makes it much easier to get a feel for how your printed document will appear. You can also drag and drop to reorder pages in the sidebar, or delete them entirely.—ROB GRIFFITHS

20 MACWORLD March 2006 www.macworld.com



Make sure your system works.

The complete Macintosh problem solving utility.



Diagnostics and Repair

TechTool® Pro includes options to thoroughly check various hardware components, drives, and other aspects of your computer system. One of the most important tests is the S.M.A.R.T. test, which checks for impending drive failure.



Optimization

This feature defragments the files on your hard drive and consolidates all the free space into one large block. Optimizing enhances the overall performance of your hard drives and simplifies file layout on the disk.



Data Recovery

TechTool Pro includes routines that can search a damaged drive and attempt to recover valid files to another location. Even if a drive is damaged beyond repair, you may still be able to save important data that had not been backed up.



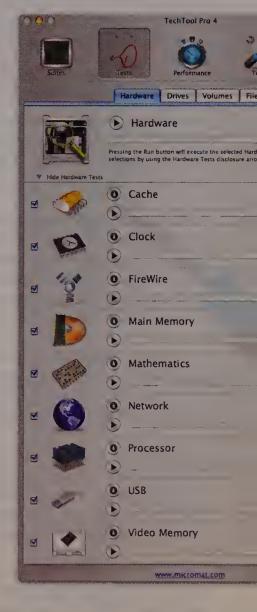
Safety

The Safety feature can be configured to protect your drives by automatically creating backups of critical drive directory data. It can also test the computer for developing problems and alert you, both onscreen and via email, if problems are detected.



eDrive

One of the most innovative features of TechTool Pro is the eDrive. This is a bootable Mac OS X partition containing TechTool Pro and a small copy of your system that you can use in an emergency. It is created on one of your hard drives without the need to reformat.



Micromat, Inc., 5329 Skylane Blvd., Santa Rosa, CA 95403 800-829-6227 707-566-3831 info@micromat.com www.micromat.com



ILIFE '06 AND MACBOOK PRO PART OF STRONG LIST OF WINNERS

Best of Show

As we do every year, the editors of *Macworld* have scoured the Macworld Conference & Expo show floor to find the most-innovative products. This year we picked 14 products that we felt highlighted a commitment to the Mac platform.

> Adobe Lightroom, from Adobe: Lightroom lets you take control of your photos—sorting, rating, editing, and publishing—in a non-destructive way (pricing not yet announced; www.adobe.com).

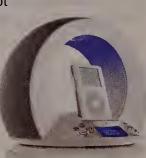


> Browseback, from Smile on My Mac: Browseback is a handy way to search your browser history; it gives you thumbnails of every page you've looked at and lets you search your history with key-

words (\$30; www.smileonmymac.com).

- > Docktopus, from Startly Technologies: With Docktopus's Dock-icon badges, your Trash can tell you how many files it contains; iCal's icon will sprout a mini-calendar of events; and any application can display a processor icon that indicates how hard it's working (\$20; www.startly.com).
- > EyeTV 2, from Elgato Systems: EyeTV 2's dramatically redesigned interface mimics that of iTunes and iPhoto. You can create playlists of video recordings and favorite channel lists, schedule videos to export automatically to iPod, and more (\$79; www.elgato.com).
- > Google Earth, from Google: This gorgeous program gives you a bird's-eye view of addresses, thanks to detailed satellite photos of Europe and North America (free; earth.google.com).
- > iLife '06, from Apple: The latest version of iLife packs a lot into one package, with the new iWeb app for creating Web sites and blogs, and updates to the other apps in the suite (\$79; www.apple.com [see page 18 for more details]).
- > iSee 360i, from Advanced Technology Office: With the iSee 360i, you can use many pre—fifthgeneration iPods to play videos and view photos. The device docks your iPod and can play files stored on the iPod's hard drive on its own 3.6-inch color screen. Plus, it can also be used to record video from a number of different sources (\$249; www.atollc.com).

- > LightZone, from Light Crafts: Based on the Zone System, a photographic technique popularized by landscape photographer Ansel Adams, this photo-editing app provides an alternative way to view, manage, edit, and correct digital photographs according to light values (\$250; www.lightcrafts.com).
- > MacBook Pro, from Apple: Powered by an Intel Core Duo processor, the MacBook Pro will, according to Apple, deliver up to four times the performance of its PowerPC-based laptops. It retains the PowerBook's striking metallic look and is essentially the same size, but also has a built-in iSight camera (1.67GHz, \$1,999; 1.83GHz, \$2,499; www.apple.com).
- > MemoryMiner, by GroupSmarts: Memory-Miner lets you explore the relationships between the people and places in your digital photos using an intuitive interface (\$60; www .memoryminer.com).
- > On Time, from JBL: Not your typical speaker system, the On Time features a looping speaker, a clock radio, and ambient light sensors so it reacts automatically to changing light conditions (\$299; www.jbl.com).



- > **Project X**, from Marware: Project X delivers easy-to-understand project management powerful enough for users who want and need highend features (\$200; www.marware.com).
- > Suitcase Fusion, from Extensis: Combining characteristics of the Suitcase and Font Reserve font managers, Suitcase Fusion can find and automatically activate exact versions of fonts in a document, including embedded EPS or PDF file fonts (\$100; www.extensis.com).
- > TechTool Protégé, from Micromat: This Fire-Wire flash drive comes loaded with a bootable copy of OS X and the latest versions of Micromat's TechTool Pro and DiskStudio. Just plug the TechTool Protégé into an ailing Mac's FireWire port, boot up, and use the built-in tools to diagnose and repair the sick machine (\$229; www.micromat.com).

NEWS IN BRIEF

Microsoft Kills Windows Media Player for Mac



After pledging to continue working on Office for Mac for at least five years, Microsoft quietly announced it had halted development of Windows Media

Player for Mac. At the same time, Flip4Mac released a new—and free—version of its WMV Player software, which adds Windows Media playback capabilities to OuickTime.

BlackBerry Mac Sync Software Now Free

Mac users who want sync capabilities with BlackBerry handheld devices no longer have to pay extra for the privilege. Information Appliance Associates, maker of PocketMac for BlackBerry, has



released the full version as free software. PocketMac allows Mac users to sync data with applications such as Address Book, Entourage (not e-mail), iCal, and Stickies.

Jam Pack

JamiPack

To go along with the new version of Garage-Band, Apple has come out with the latest expansion set for use with GarageBand, Logic Express, and Logic Pro. Weighing in at more than 12GB, Jam Pack:

World Music includes

Apple Releases New Jam Pack

more than 3,000 Apple Loops of exotic instruments from around the globe. It also

adds more than 40 new software instruments including strings such as balalaika, koto, and sitar; diverse drum kits; winds such as Native American flutes, Highland bagpipes, and Peruvian panpipes; and other instruments such as tango accordions and Tibetan singing bowls.





22 MACWORLD March 2006



SEOWN BLOWN



Maxell accessories for your iPod® mobile digital device make your small iPod sound like a huge audio system. From powerful digital earbuds to technologically advanced FM transmitters to a universal recharger dock, Maxell's accessories deliver powerhouse performance song after song after song.











Maxell.com

UPDATE ADDS SEVERAL NEW FEATURES

iTunes Goes to 6.0.2

Your Software Update panel might tell you that iTunes 6.0.2 is an update offering only "stability and performance improvements over iTunes 6.0.1," but there's a

lot more to it than that. In addition to being the first Universal version of iTunes, this new update adds a few new features that users of PowerPC-based Macs can also enjot.

The most obvious addition is the new iTunes MiniStore, which displays iTunes Music Store suggestions and links in a pane at the bottom of your iTunes window. To generate relevant MiniStore links, iTunes 6.0.2 transmits data about your currently selected song back to the iTunes Music Store. (If you close the MiniStore window by choosing Edit: Hide MiniStore,

iTunes stops transmitting that data.)
The MiniStore is a clever addition,

but it has riled privacy advocates. That's because when it was released, iTunes transmitted your music data across the Internet without warning you that it was doing so.

Apple added an opt-in screen a week later, and explained that it does not retain the data sent by iTunes—alleviating one major privacy concern.

On the more benign front, iTunes 6.0.2 now lets AirPort Express stream music to up to three of the devices at once, rather than just one. You can now share videos, as well as music, via iTunes sharing. And the new Convert Selection For iPod command allows you to encode iPodcompatible video directly from within iTunes.—JONATHAN SEFF

APPLE RELEASES WIRED REMOTE AND FM RADIO COMBO

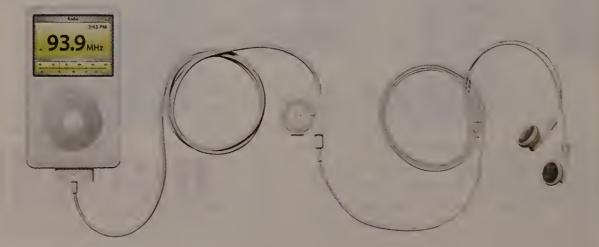
iPod Radio Remote

Many users bemoaned the removal of the remote port from the iPod (the nano was the first model without it). It was used by makers of voice recorders, FM transmitters, and more. Taking away the port also meant the end of Apple's wired remote control. The company rectified that situation with the release of the \$49 iPod Radio Remote.

The new remote brings similar functionality to the iPod nano and fifth-generation iPod—controls for volume, play and pause, moving backward and forward, and fast-forwarding and rewinding—and connects to the iPod via the dock connector. But the big change is the

addition of an FM radio tuner to the remote, which is powered by the iPod. Plug in the remote, select Radio from the iPod's main menu, and you'll see a digital version of an analog radio that lets you choose FM stations between 87.5 and 107.9, using the Click Wheel. You can also bookmark station presets for later.

As a nice touch, the remote includes a set of Apple's standard earbud headphones with a shorter cable than normal, so you don't end up with too much combined cable between the remote and headphones (you can use any headphones with the remote).—JONATHAN SEFF





Cordless Desktop \$ 530 Laser for Mac, from Logitech (www.logitech.com): The cordless keyboard features 15 programmable buttons for controlling music, photos, and e-mail applications, while the right-handed tilt-wheel mouse has five customizable buttons (\$100).

FP202W, from BenQ (www.benq.com): Wide-screen 20-inch LCD features 8ms response time, 600:1 contrast ratio, and 1,680-by-1,050-pixel resolution (\$649).

FP93V, from BenQ (www.benq.com): 19-inch all-white LCD features 8ms response time, 550:1 contrast ratio, and 1,280-by-1,024-pixel resolution (\$419).

Intuos3, from Wacom Technology (www.wacom.com): Pen-tablet system now comes in a larger, 12-by-19-inch version for photographers, and a 12-by-12-inch version for CAD artists (12-by-19 model, \$780; 12-by-12 model, \$579)

MFC-820CW, from Brother International (www.brother.com): Ink-jet multifunction device copies at 1,200 by 600 dpi, scans at 600 by 2,400 dpi, and prints color pages at 6,000 by 1,200 dpi (\$250).

Pixma MP150, from Canon (www.usa.canon .com): Multifunction device can print a border-less 4-by-6-inch photo in 55 seconds at resolutions up to 4,800 by 1,200 dpi (\$90).

Tango, from XtremeMac (www.xtrememac .com): 2.1 speaker system integrates a dock connector, features a remote control, and is designed to work with an iPod; it ships in late March (\$199).



Kona 3, from AJA Video (www.ajavideo.com): Uncompressed capture card for SD, HD, and Dual Link 4:4:4:4 HD for PCI Express features a 4-Lane PCI-Express bus interface with integrated drives for the Power Mac G5 and Final Cut Pro (\$2,990).

Notion 1.5, from VirtuosoWorks (www.notionmusic.com): Music-composition and -performance software making its Mac debut offers full-featured notation system, MIDI entry, Music XML import, and conducting tools (\$599).

Photo to Movie 3.3, from LQ Graphics (www...lqgraphics.com): Software for creating movies from digital photos adds support for the iPod with video (\$50).

Squeeze 4.3, from Sorenson Media (www.soren sonmedia.com): Encoding tool adds Flash 8 support, embedded cue points for Flash, a cross-platform FLV player, and On2 VP6 Pro plug-in support for Mac (\$449; upgrades, free for Squeeze 4.0 owners and \$139 for Squeeze 3.X owners).

Intego VirusBarrier X4 The acclaimed antivirus program for the Mac

M. function Orb

change in color of the Orb ates the presence of an ted or damaged file.

- lon

ose the data to be scanned in dialog box with a simple

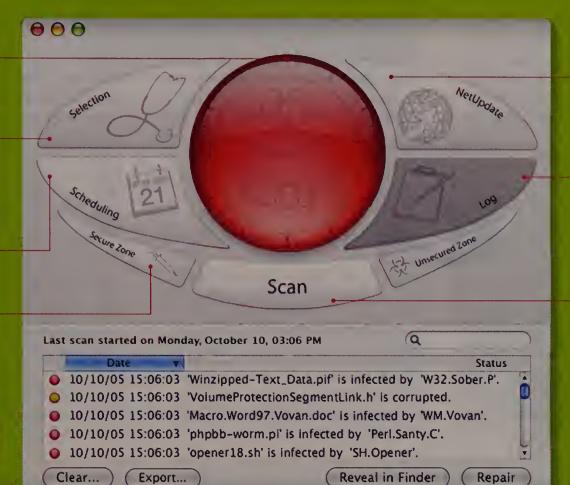
uling

ne tule regular or specific n of your volumes and nothern in Apple's iCal.

forced security zone

ade for yourself the best of security for your files

NEW VERSION



NetUpdate X4

Automatically or manually check the availability of updates or virus definitions.

Complete log

Display all analysis logs of your volumes and files with a single click.

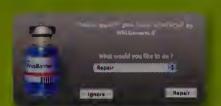
Analysis

Turbo Mode technology analyzes your data up to 40 times faster.



Intego Widgets

Discover, under Tiger, new Intego Widgets informing you of the status of your protection, the availability of updates, and scheduled events.



VirusBarrier «

Repairs your infected documents

VirusBarrier X4 alerts you to the presence of viruses and repairs damaged or corrupted files.



Your updates with NetUpdate X4

Easily schedule, check and install new virus definitions and updates for all Intego software installed on your Mac.

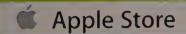


Main features of VirusBarrier X4

- Detects and eliminates all known viruses
- Repairs infected files
- Turbo Mode technology (up to 40 times faster)
- Simple, effective and non-intrusive
- New dynamic resizable interface
- Scans incoming and outgoing e-mail
- New Intego menu
- VirusBarrler X4 Widget and Intego Widget
- Scheduled scans
- Detailed log
- Reinforced security zone

- Heuristic and behavioral analysis
- Blocks virus execution
- New multi-function Orb
- New alert management
- File analysis by the Intego Virus Monitoring Center
- File creation and modification detection
- Temporary antivirus deactivation
- Easy integration with other Intego programs
- Management of compressed files
- Contextual Menu
- Updates via NetUpdate X4







NAVARRE







DEVELOPER PULLS SOFTWARE AFTER RECEIVING LETTER

Bye-Bye, Lyrics

Late last year, Walter Ritter—a university researcher and part-time software creator in Austria—received a letter. His pearLyrics app, which searches the Internet for the lyrics to any song playing in iTunes and adds them to the song's Lyrics field, had caught the attention of Warner/Chappell Music, one of

the world's largest music publishers. The company claimed that by enabling Web users to download and copy lyrics, Ritter's software was violating Warner/Chappell's copyrights.

At around the same time, the Music Publishers' Association (MPA) trade group was gearing up for a campaign against lyrics Web sites. MPA president Lauren Keiser said in an interview with the BBC that if the people who ran those sites were facing "some jail time, I think we'll be a little more effective."

To music publishers, the issue seems simple: they own copyrights to lyrics, and Web sites are posting those lyrics online without permission; therefore, those sites are violating the law. But all lyrics sites are not the same. What publishers are really

> concerned about are commercial sites specifically designed to put ads in front of a bunch of eyeballs and to make a bunch of money.

After Ritter's case came to the attention of cyber-rights group the Electronic Frontier Foundation (EFF), senior intellectual-

property attorney Fred von Lohmann sent Warner/Chappell a letter saying that, while the EFF couldn't help an Austrian resident, "any legal threats by Warner/ Chappell against U.S. software developers in connection with software similar to pearLyrics could expose Warner/Chappell to legal action in U.S. federal courts."

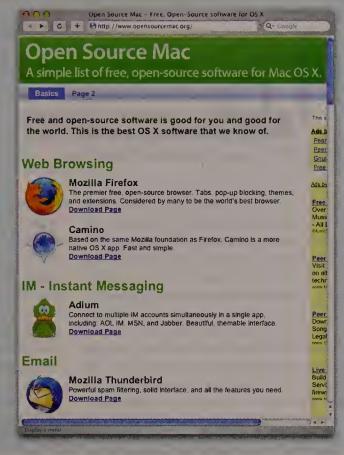
A few days later, Ritter received a call from Richard Blackstone, chairman and CEO of Warner/Chappell Music, who apologized for his company's harsh letter and promised to work with developers "to provide consumers a convenient, legal way to find accurate song lyrics"—but didn't give Ritter the green light to repost his software. Consequently, the software remains unavailable. "Even if Warner/Chappell would be fine with [pearLyrics] being back online," says Ritter, "who can guarantee that other music publishers and copyright holders would also be happy about it? Therefore I will not put it back online in its current form."

So while Ritter may have received an apology from Warner/Chappell after the initial skirmish, the war is far from over. And as usual, users are caught in the cross fire.—DAN MILLER



CHECK IT OUT: WEB SITE

There may be no such thing as a free lunch, but free software is a completely different story. The problem is, there's actually so much of it out there that it's hard to tell the wheat from the chaff. That was the impetus for the creation of Open Source Mac (www.opensourcemac .org), a site that lists the best in free, open-source software for OS X—from RSS readers and word processors to photo editors and games. Some apps, such as Adium or Firefox, may already be on your radar. But you're sure to find other cool programs you may not have otherwise heard of. Before you download a program and try it out, at least you'll know someone's given it the thumbs-up already—and if you don't like it, at least it didn't cost you anything.—JONATHAN SEFF





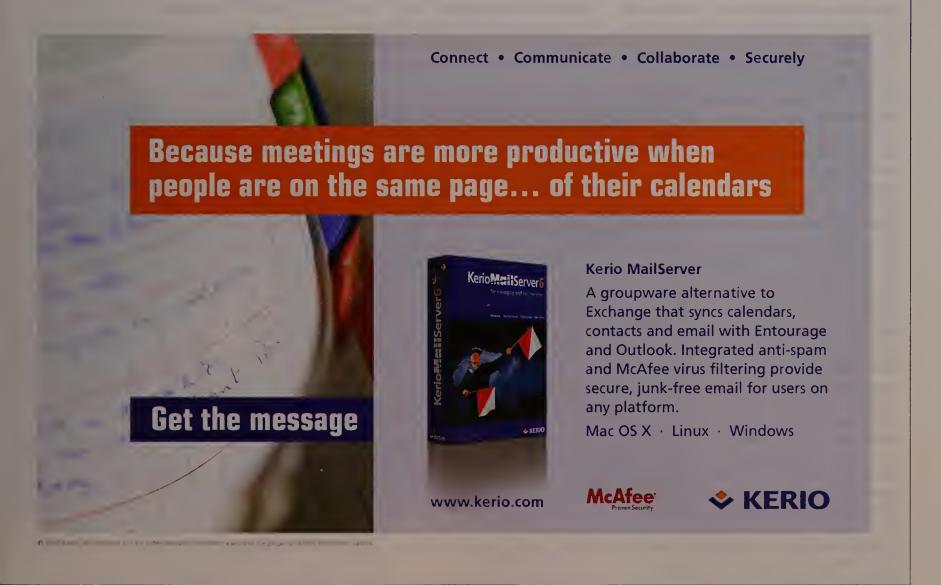
DualDisk, from Miglia Technology (www .migila.com): Storage product integrating two hard drives in a horizontal format has been redeveloped using Western Digital disk drives in capacities ranging from 320GB to 640GB (\$399 to \$585, depending on capacity).

Little Big Disk, from LaCie (www.lacie.com): Portable external hard drive features triple interface of USB 2.0, FireWire 400, and FireWire 800 and comes in capacities ranging from 160GB to 320GB (\$399 to \$799, depending on capacity).

MediaBank Solo, from Miglia Technology (www.miglia.com): External hard drive comes in 160GB and 300GB capacities and has one USB 2.0 and two FireWire 400 ports (160GB, \$199; 300GB, \$269).

Shared Storage Plus, from Maxtor (www .maxtor.com): Storage product lets Mac users automatically back up files, digital photos, music, and videos to one central location on a home or small-office network in capacities ranging from 200GB to 500GB (\$300 to \$500, depending on capacity).

Skwarim, from LaCie (www.lacie.com): Handheld 3.3-square-inch USB 2.0 hard drive comes in 30GB pink version and 60GB blue version (30GB, \$149; 60GB, \$199).



Reviews

OUTSTANDING: VERY GOOD: GOOD: FLAWED: UNACCEPTABLE:



Aperture 1.0

Despite Some Flaws, Apple's Pro Imaging Application Sparkles

BY JIM HEID

Flashes of genius with room for improvement: that's Aperture 1.0.1, Apple's new professional digital imaging software. Targeted at photography pros, Aperture combines powerful photo-management and -cataloging features with basic image editing and excellent publishing and presentation functionality. All this is wrapped in an efficient, elegant interface that glitters with typical Apple flair.

But no debut is perfect. Apple's 1.0.1 update fixed some of Aperture's flaws, but some bugs and performance problems remain.

Aperture's image-editing features can't compare to those of Adobe Photoshop CS2 (****: macworld.com/1057). And that's intentional: Aperture was designed for photographers who want to spend more time shooting and less time managing image files and pushing pixels.

By that measure, Aperture succeeds bril-

liantly. But deciding whether it's the right digital imaging application for you means understanding where its strengths and weaknesses lie—particularly if you're a Photoshop guru.

Start to Finish

Aperture is designed to handle the entire workflow of a typical photography job: importing images from a camera or a media reader; sorting through them to find the best shots; polishing those picks; and then printing, presenting, or exporting the final photos.

Each of these operations takes place within Aperture's single window (see "One Window, Many Uses"). You can switch between various workspace layouts, each for a specific phase in the workflow. (For an introduction to Aperture's interface and features, see mac world.com/1058.) Aperture's one-window design feels a bit

cramped on a small screen, such as a Power-Book's. It's more comfortable on at least a 20-inch display, and it's a thing of beauty on the 30-inch Apple Cinema HD Displays (****; macworld.com/1033) Apple sent to Aperture reviewers for a bittersweet one-month loan.

If you have two displays connected to your Mac, Aperture's horizons open wide. Several commands and keyboard shortcuts let you employ both displays in various ways. For example, you can use the second display as a simple extension of the first to view more photo thumbnails for sorting and culling. Or you can leave the second display blank except when you display photos in Aperture's Slide Show mode—ideal for client presentations.

High-End Hardware

Aperture has stringent dietary requirements: you need a Power Mac G5, preferably a dual-processor, dual-core, or Quad model,

with one of 11 supported video cards, which work with OS X's Core Image technology to enable Aperture's editing features. Like a growing number of Apple applications, Aperture relies heavily on your Macs's graphics circuitry. (For a list of supported cards and a compatibility-checker utility you can download, see macworld.com/1059.)

Aperture also runs on certain PowerBook G4 models, but its image-editing functions are sluggish. The program's photo-management and publishing features are acceptably swift, though. I wouldn't hesitate to use Aperture in the field to import, manage, and cull photos, but I'd long to get back to the G5 in my studio for making image adjustments.

Expert Organizer

Aperture's features for sorting and rating photos are superb. The Auto-Stack Images comcontinues on page 35



One Window, Many Uses Aperture's one-window interface has several workspaces, each for a specific task. On a 30-inch Apple interface and features, see mac world.com/1058.) Aperture's Images panel (or heads-up display, in Apple parlance) is also visible here (3); drag its slider to group, or stack, shots taken within a specific task. On a 30-inch Apple interface and features, see mac world.com/1058.) Aperture's Images panel (or heads-up display, in Apple parlance) is also visible here (3); drag its slider to group, or stack, shots taken within a specific task. On a 30-inch Apple interface and features, see mac world.com/1058.) Aperture's Images panel (or heads-up display, in Apple parlance) is also visible here (3); drag its slider to group, or stack, shots taken within a specific task. On a 30-inch Apple interface and features, see mac world.com/1058.) Aperture's Images panel (or heads-up display, in Apple parlance) is also visible here (3); drag its slider to group, or stack, shots taken within a specific task. On a 30-inch Apple interface and features, see mac world.com/1058.) Aperture's Images panel (or heads-up display, in Apple parlance) is also visible here (3); drag its slider to group, or stack, shots taken within a specific task. On a 30-inch Apple interface has several workspaces, each for a specific task. On a 30-inch Apple interface has several workspaces, each for a specific task. On a 30-inch Apple interface has several workspaces, each for a specific task. On a 30-inch Apple interface has several workspaces, each for a specific task. On a 30-inch Apple interface has several workspaces, each for a specific task. On a 30-inch Apple interface has several workspaces, each for a specific task. On a 30-inch Apple interface has several workspaces, each for a specific task. On a 30-inch Apple interface has several workspaces, each for a specific task. On a 30-inch Apple interface has several workspaces, each for a specific task. On a 30-inch Apple interface has several workspaces, each for a specific tas

REVIEWS YOU CAN TRUST Macworld rates only final shipping products, not prototypes. What we review is what you can actually buy.

Brainstorming Tools

Applications That Help You Organize Your Ideas

BY ROBERT ELLIS, REBECCA FREED, AND WILLIAM PORTER

Word processors and text editors help you write, spreadsheets help you crunch numbers, e-mail clients let you send e-mail, and so on. But some software is a little harder to define—for example, apps that help you generate and organize your ideas. They include outliners, note takers, and diagrammers, as well as some products that are hard to describe in a couple of words.

Because these tools are so idiosyncratic, and because they work in very different ways, it's impossible to say that one is best

Curried Streets Streets Streets Streets Streets Streets Street Streets Streets

Free Thinking Zengobi's Curio lets you assemble your inspiration in idea spaces, which can contain just about anything—text, images, audio, movies, or links.

for all users at all times. Your choice will depend a lot on how you think (verbally or visually, in a strongly structured order or in random flights of fancy, and so on) and what you need to think about (a massive long-term project or a simple to-do list, for instance). So we won't crown a "King of the Brainstormers" in this roundup—we'll just let you know what we think of each one and let you make up your mind about which is right for you.

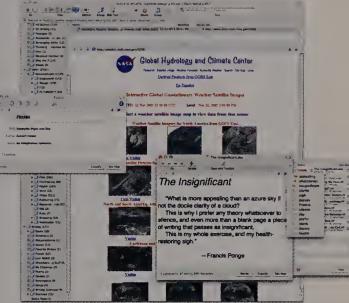
Curio 2.4 Professional Edition

If you find notebooks, outliners, and information managers too confining, Zengobi's Curio will give your imagination space to run free. It's an ideal brainstorming tool for out-of-the-box thinkers. Whether you're rough-

ing out a Web site, creating a lesson plan, or sketching out the characters and plot for a screenplay, Curio lets you capture your inspiration without restricting you to notes and outlines.

A Curio document can contain multiple *idea spaces*. Think of an idea space as a virtual blank canvas—you can drag and drop items, including other docu-

ments, from outside the program into it or create new objects in Curio. And you can doodle. Curio's drawing tools are basic, but they're pressure-sensitive when used with a graphics tablet.



Many Views DevonTechnologies' DevonThink Pro features integrated Web browsing, a See Also drawer that shows related files, and sheets (collections of records based on tables and forms).

A Curio document can have as many idea spaces as you like, and idea spaces can grow as large as 5,000 pixels square to accommodate your inspiration. You can link an object to another object or an idea space, and you can even attach actions that create an e-mail message, open a file or a URL, or launch an AppleScript.

You can save a Curio project as a PDF document, or save individual idea spaces as TIFF, JPG, or PNG images. Curio can also export to HTML, and if you have a .Mac account, you can publish directly to your iDisk.

Curio is fun and easy to use, though it does have some minor usability problems. For example, if you change the background grid, there's no easy way to revert to the default style. (For a more-detailed review of Curio, see macworld.com/0656.)—ROBERT ELLIS

DevonThink Pro 1.0

The multitalented DevonThink Pro 1.0.2 is a great choice if you need to make sense of a lot of information and view it in multiple ways. Unlike information managers that mimic notebooks, DevonThink Pro organizes information in a database that offers a choice of views: List, Icons, Columns, Vertical or Horizontal split views, and a Three Pane view similar to Apple's Mail.

You can bring almost any file into Devon-Think Pro; you can also add a graphic or text by using shortcut keys, DevonThink's Dock menu, or the Services submenu.

DevonThink Pro is a capable text editor, and it uses OS X's text engine. It also continues

BRAINSTORMING TOOLS

COMPANY	PRODUCT	RATING	PRICE	OS X COMPATIBILITY	CONTACT
Chronos	StickyBrain 4.0	### # ¹ / ₂	\$40	10.4	www.chronosnet.com
Circus Ponies Software	NoteBook 2.0	*****	\$50; academic version, \$30	10.3, 10.4	www.circusponies.com
Computer Systems Odessa	ConceptDraw Pro V 5.2	****	\$299	10.2, 10.3, 10.4	www.conceptdraw.com/en
Devon- Technologies	DevonThink Pro 1.0.2	### # ¹ / ₂	\$75; Personal Edition, \$40	10.3, 10.4	www.devon- technologies.com
Flying Meat	VoodooPad 2.5	****	\$25	10.3, 10.4	flyingmeat.com/voodoopad
Mariner Software	Maclournal 3.2.1	****	\$30; down- load, \$25	10.2, 10.3, 10.4	www.marinersoftware.com
The Omni Group	OmniGraffle 4.1 Professional	*** *********************************	\$ 150	10.3, 10.4	www.omnigroup.com
The Omni Group	OmniOutliner 3 Professional	****	\$ 70	10.3, 10.4	www.omnigroup.com
Zengobi	Curio 2.4 Profes- sional Edition	*** *********************************	\$129	10.3, 10.4	www.zengobi.com

includes a built-in Web browser based on Safari. You can browse Web pages and RSS feeds and clip contents, and you can step through all the bookmarks in a folder by clicking on arrow buttons.

The program has some extremely powerful search features that allow you to see your data in various ways. Unfortunately, the contents of a DevonThink Pro database are hidden from Spotlight (this will change in a future version, according to DevonTechnologies).

You can export data from DevonThink Pro to The Omni Group's OmniOutliner and other popular programs. (For a more-detailed review of DevonThink Pro, see macworld.com/0991.)—ROBERT ELLIS

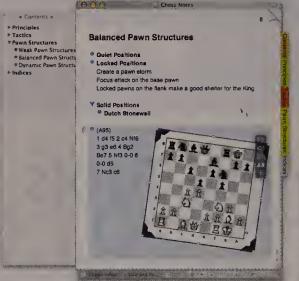
MacJournal 3.2

Mariner Software's MacJournal 3.2.1 allows you to maintain multiple journals that can include text or rich media, such as images, audio, and movies, inside a straightforward interface. Since going commercial with version 3.1, MacJournal has added some convenient new features, such as nested journals, automatic lists, a full-screen mode, and Spotlight support. But that may not be enough to justify the \$30 price (version 2.6, although not actively developed, is still available for free at homepage.mac.com/dschimpf/).

MacJournal lets you add links from one journal entry to another (for example, you can easily convert the word *SuperBowl* into a link to your Super Bowl journal entry), or links to external files or Web sites.

Finding your entries is easy enough, and MacJournal is now fully Spotlight-compatible. A Calendar view highlights days that contain entries, so you can navigate to your entries by date, and you can search for an entry within a range of dates just by selecting them on the calendar.

You can protect your journals with a password or encrypt them with 256-bit encryption. You can also easily export journals to a .Mac account or post entries to your blog



Custom Notebook Circus Ponies' NoteBook lets you control the appearance of your notebook via the Inspector window (right), a Contents Card pane (left) makes navigation easier, and a new toolbar (bottom) puts common commands at your fingertips.

using LiveJournal, Blogger, WordPress, or MovableType. And MacJournal exports to text, Rich Text, HTML, or Microsoft Word files.—ROBERT ELLIS

NoteBook 2.0

Circus Ponies' NoteBook 2.0 is the most

intuitive and the easiest to use of the note-taking programs that use a spiral-notebook metaphor. Its interface provides structure, but it's also flexible enough to offer creative freedom.

NoteBook arranges notes, images, and audio files in a hierarchical outline; you can add multiple keywords or Stickers (icons) to an outline cell. NoteBook can now sort cells, keeping your lists in alphabetical order or ranking to-do items by priority.

This version includes a cornucopia of new features. You can add unstructured pages

to a NoteBook file,

drag and drop contacts from Address Book to NoteBook

documents, publish action items to iCal, and add iCal alarms to a cell. A new toolbar offers quick access to common commands. A Contents Card feature and Spotlight support make it even easier to find what you're looking for. Unfortunately, there's still no way to view

a NoteBook document without installing the full app, but the Web export has gotten better.—ROBERT ELLIS



OmniOutliner 3 Professional

The Omni Group's OmniOutliner 3 Pro is a top-of-the-line outlining program for compulsive organizers; you'll be surprised at OmniOutliner Pro's versatility.

It has some very useful features, such as "folded" editing (in which you see only one line of all your multiline topics, except for the topic

you are editing), the ability to view section titles in the Utilities drawer, and export to Microsoft Word.

I also like OmniOutliner Pro's ability to export an outline to dynamic HTML. This creates an interactive Web page with topics

O-Entire Document

| Possible venues | Possible

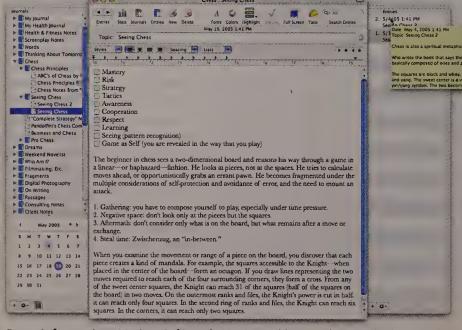
Twice the Info, Twice the Rows The Omni Group's OmniOutliner Pro can not only help you figure out what to do on your vacation, but also add up what it will cost.

that expand and collapse, suitable for an online course syllabus or help system. You can also organize a presentation in OmniOutliner Pro and export it to Keynote.

OmniOutliner Pro can display multimedia files within a document, it has batchfind and improved printing features, and it supports inline notes (previous versions displayed notes in a separate pane). Many of its features overlap with those of other programs; however, its power and flexibility help it surpass many of them. (For a more-detailed review of OmniOutliner, see mac world.com/0612.)—WILLIAM PORTER

StickyBrain 4.0

Chronos's StickyBrain is a free-form information manager, a kind of virtual filing cabinet where you can store text notes, clippings, passwords, receipts, reminders,



Deep Information Mariner Software's MacJournal lets you keep multiple journals that contain text, images, audio, and movies. It also allows you to nest journals within other journals.

Diagramming Software

Applications That Help You Visualize Your Thoughts

BY FRANKLIN N. TESSLER

Whether you're mapping a subway route or illustrating your thesis on macroeconomic theory, diagrams let you represent ideas in ways that would be tricky or impossible with words. Although you can create diagrams with image-editing or illustration programs such as

Adobe Photoshop or Illustrator, diagramming programs provide specialized tools that let you show relationships between items-and that sometimes help you discover new relationships. The two leading outlining apps—The Omni Group's OmniGraffle 4.1 Professional and Computer Systems Odessa's ConceptDraw Pro V 5.2—take different approaches. (A third, Inspiration 8, was released too late for this review.)

ConceptDraw Pro V 5.2

Computer Systems Odessa's ConceptDraw Pro V occupies the expert end of the diagramming spectrum, with libraries of templates and symbols geared toward business and science; a complete set of built-in drawing forms; and a full repertoire of alignment, rotation, grouping, and connection tools.

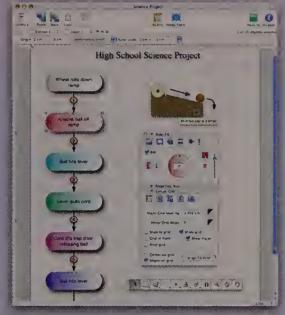
Not surprisingly, tapping into all this power demands considerable effort and skill, not to mention

a thorough read of the 300-page manual. Although most people probably won't use Concept-Draw's advanced programming features, they let you turn static diagrams into visual databases or simulations if you're so inclined.

OmniGraffle 4.1 Professional

If you don't need everything ConceptDraw has to offer, there's The Omni Group's OmniGraffle Pro, which takes a middle-of-the-road approach to diagramming.

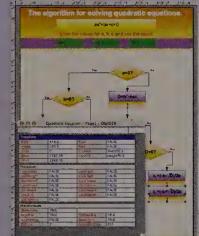
While its tools aren't as extensive as ConceptDraw's, they should suffice for most diagrams. OmniGraffle Pro also supports soft drop shadows, with stunning



Make It Look Easy OmniGraffle Pro's tools let you adjust the properties of individual elements or the entire canvas.

results. It isn't as difficult to learn as some similar apps, and its interface is clean and easy to navigate. A handy feature that lets you display multipage diagrams in a full-screen slide-show format is a boon if you have to show a complex diagram to a group. (For a more detailed review of OmniGraffle 4, see macworld.com/0992.)

FRANKLIN N. TESSLER is a frequent Macworld contributor.



More than a Diagram Concept-Draw V's custom properties and scripts let you create interactive diagrams like this one, which solves quadratic equations.



DLO | Relaxed Leather

CASUAL LEATHER CASES FOR IPOD

Unique. With the millions of iPods in the world, it's getting harder to call your iPod special. Introducing the Relaxed Leather cases from DLO. Over a dozen original leather designs that protect your iPod from normalcy.

Choose from relaxed styles that mix browns and suedes, and anything but basic black, to give your iPod a personality as individual as you are. Don't just think different - be distinctive.

Select the Relaxed Leather that's uniquely you at www.dlo.com.



www.dlo.com



DIGITAL LIFESTYLE OUTFITTERS . EVERYTHING FOR YOUR IPOD AND MORE . VISIT US NOW AT DLO.COM



Seven USB 2.0 ports, Over-Current Protection, LEDs that report activity and port status, and a surprisingly practical design.

Dr. Sott

Share a DVI flat panel display, USB keyboard and mouse, between up to four DVI-equipped computers.

Dr. Sott



DVlator

Use an Apple ADC display with any DVI Mac.



VGA / DVI Extractors

Connect a VGA monitor or DVI display to your Mac's ADC port.



DVI Extension

Adds 10 feet between the Mac and your DVI display.



VGAtor

Use Apple's ADC and DVI flat panel displays on any computer with a compatible VGA graphics card.



gHead II

Connect the latest flat panel displays to your Mac's VGA port.











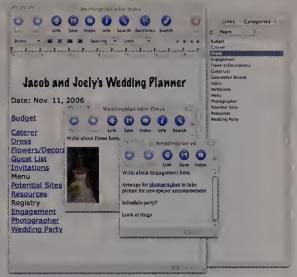


and more. It works well for people who need help keeping track of lots of tiny bits of information. StickyBrain 4.0 offers a number of noteworthy improvements, including faster performance, Spotlight support, several new note types, and a refined interface.

The updated StickyBrain Viewer window looks almost exactly like Apple's Mail. And like Mail, StickyBrain organizes bits of information into folders and subfolders. You can control almost everything about the appearance of these pieces of data. The new Bookmark note type lets you browse the Web within StickyBrain, and you can easily archive a page by making a selection from the Action menu. You can even add lists and tables to notes.

Getting information in and out of Sticky-Brain is a snap. You can export one or more notes as individual files or as a combined plain-text or RTF file, and StickyBrain can synchronize with your .Mac account, Palm OS device, or iPod. What I love most about StickyBrain is everything you can do with it even when it isn't running. You can create a new note on-the-fly by invoking the Quick-Note window with a hot key, and that window lets you select each note's destination folder.

But as much as I love StickyBrain, there are still a few things that bother me. Among them is the fact that this version requires OS X 10.4.3; there's no point in using this version if you aren't running Tiger.—ROBERT ELLIS



Like Magic Flying Meat's VoodooPad has toolbars for organizing and navigating through your data.

VoodooPad 2.5

Flying Meat's VoodooPad looks a lot like a scratch pad you'd keep next to your phone for jotting down notes and phone numbers, and it's meant to be used like one. Type, paste, or drag whatever text or object you need to keep handy into VoodooPad, and use the program's toolbar to organize and navigate through your data. VoodooPad is great for people who want to organically create a structure from seemingly random musings. If you don't want to be distracted by a busy interface as you develop ideas, or if you don't want to waste time learning to use specialized tools, VoodooPad could help you let your creativity flow.

Every VoodooPad document starts as a single page, but the idea is to put different topics on separate pages and move between them via hyperlinks. Once you've made a new page by highlighting a word and clicking on the Link button, any instance of that word automatically becomes a live link to that new topic page. This approach is nice because your document gains a structure as it grows; you don't have to start with one in mind.

VoodooPad makes a handy, unintimidating Web-authoring tool, since you can save any document (or page) as HTML. Version 2.5 adds a handful of simple but attractive HTML templates that are suitable for Weblogs. But you can't view or edit HTML in the program, and you'll need a browser and an FTP client to preview and upload pages.

My main complaint about VoodooPad is that its Help features need a bit more attention.—REBECCA FREED

The Bottom Line

There's a lot to choose from when it comes to using your Mac to organize your thoughts. Luckily, you can try out most of these programs before buying, by downloading demo versions from the companies' Web sites.

ROBERT ELLIS is a freelance writer and frequent contributor to Macworld. REBECCA FREED writes about Macs regularly for PC World. WILLIAM PORTER is an independent database-applications developer and a writer.







Aperture 1.0

continued from page 28

mand, which groups shots taken within a specified interval, has no peer in Adobe Bridge (Reviews; macworld.com/1060). iView Multimedia has added a somewhat similar feature to iView MediaPro 3.0.1, but it lacks the slick elegance of Aperture's implementation.

As you sort and cull, you can rate photos, compare multiple photos side by side, and study details with an on-screen magnifying loupe. Photoshop veterans may be disappointed by Aperture's lack of standard zoomin and zoom-out controls, but I found the loupe and Aperture's full-screen editing mode adequate—especially given the program's limited editing capabilities.

For pros, a big part of organizing photos also involves supplying metadata, such as descriptive keywords and captions. Aperture's metadata-management features are excellent; you can easily create and add keywords, apply one image's metadata to a group of other images, base image searches on metadata, and much more.

Alas, the metadata story goes sour if you export an image into TIFF or Photoshop (PSD) formats, because Aperture omits some critical metadata from the exported file. If you're a photographer who relies heavily on metadata and you anticipate exporting images for use in other applications, this bug could be a deal breaker.

In the Darkroom

Aperture works with most common image formats, including the raw-format images from high-end digital cameras. And thus opens a can of worms: many early reviews and online forum postings slammed Aperture for delivering image quality inferior to that of Adobe Camera Raw and other converters.

The truth is more complicated. While Aperture supports numerous raw formats, Apple applied additional fine-tuning for some high-end digital SLRs. If you don't use one of those cameras, you may well see higherquality images from Adobe Camera Raw.

After evaluating dozens of raw images from several high-end cameras, I say that Adobe Camera Raw has the raw-quality advantage. But it isn't a slam dunk. Properly exposed images shot at low-to-medium ISO speeds look excellent in Aperture. Adobe Camera Raw often delivers superior results with images that are poorly exposed or shot at high ISO settings. And for those special-case shots, you can use Aperture's Export Master command to send the original raw file to Photoshop.

Aperture's editing environment is clean and straightforward. A full-screen mode hides nearly all controls, enabling you to maximize screen real estate. Image-adjustment controls appear in a floating panel called the Adjustments beads-up display (HUD). Aperture makes extensive use of

these HUDs, and they work well, though I'd like to see more keyboard shortcuts in the Adjustments HUD.

When you edit an image, Aperture leaves the original untouched, simply recording the changes instead. This nondestructive approach makes creating multiple versions of an image easy and efficient—rather than gobbling disk space by duplicating an image, Aperture just starts assembling a different set of editing instructions.

The program's image-editing functions are adequate for basic exposure fixes and color adjustments, but for advanced editing-for localized sharpening, lightening only part of an image, or complex retouching, for example—you'll want to use Photoshop CS2. Aperture provides an Open In External Editor command, which can automatically send an image from Aperture into Photoshop, or any editor you choose. Your saved document will automatically go back into your Aperture library, but if you've added any layers, you will see only a flattened version within Aperture. Your original layered document is still there, and will appear layered if you send the document back to Photoshop. Importing an already layered Photoshop document into Aperture is more problematic. When you send this document from Aperture to Photoshop, it will get flattened, though your original layered version will be preserved in the Aperture library and can be exported to the Finder as a normal file.

Aperture's output options are complete and then some. You can produce full-size prints or customizable contact sheets on your color printer, order photographic prints in sizes up to 20 by 30 inches, and create attractive layouts for books.

Macworld's Buying Advice

Just as no single lens can address every photographer's shooting needs, no single program can address every post-shoot requirement. While Aperture goes further than any other program in addressing the start-to-finish requirements of advanced photographers, it needs to play better with other programs and could use some additional bug fixes. However, if you require only modest image editing, give Aperture a close look.

RATING: \$\$\$\frac{1}{2}\$

PROS: Excellent photo-management, -selection, and -publishing features; innovative user interface.

CONS: Several bugs; raw conversions for some cameras could be better; Photoshop workflow needs refinement; requires fast, powerful hardware for acceptable performance.

PRICE: \$499

OS X COMPATIBILITY: 10.4 (Tiger) COMPANY: Apple, www.apple.com

Contributing Editor JIM HEID is the author of The Macintosh iLife '05 (Peachpit Press/Avondale Media, 2005) and its companion Web site.







Using our Subscriber Services web site is the fastest way to take care of any of your Macworld subscription inquiries.

Your online service options allow you to:

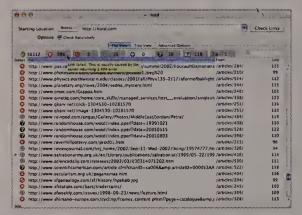
- Pay for your subscription
- Change your mailing address
- Sign up for continuous service
- Give a gift subscription
- Renew your subscription
- Inquire about missing/duplicate issues
- Contact us directly with your questions

Save time! Go to:

service.macworld.com

More Reviews

For complete reviews of the products listed here, visit www.macworld.com/reviews.



ton Sherouse (www.bltformac.com): Braxton's Link Tester (BLT) 1.0.1, a new tool for Webmasters of small to medium sites, automates link testing and provides detailed information on link failures, to help users keep sites up-to-date. It can also export your results in a variety of formats, including HTML and comma-separated text. If you manage Web sites of moderate complexity and are willing to overlook a few minor glitches, BLT can save you significant time and effort (macworld.com/1064).





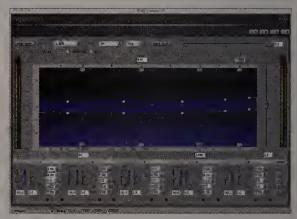
\$\$\$\$ EyeTV EZ ▲ (\$149), from Elgato Systems (www.elgato.com): The EyeTV EZ, an analog TV tuner that passes uncompressed video to your Mac, works as promised: it makes watching TV on your Mac easy to do. And while the EyeTV EZ can also record a TV signal,

it does not have a hardware MPEG encoder (macworld .com/1065).

****** iWatermark 3.0 (\$20), from Script Software (www.scriptsoftware.com): If you have lots of images, adding a watermark to each one is a time-consuming task. Script Software's iWatermark 3.0.3, a Photoshop plug-in, automates the process; its price and interface are suitable for beginners, and its features are flexible enough for professionals. In addition to adding watermarks, the program can create thumbnail images and scale images to any size and resolution (macworld .com/1066).



***** Painter Essentials 3.0 ▲ (\$99), from Corel (www.corel.com): Painter Essentials 3 is an extremely powerful program that gives beginning artists the ability to create beautiful artwork, as well as the freedom to experiment in ways they may never have dreamed possible. The program is also powerful enough that more-experienced artists can use it to explore an image's painterly potential (macworld.com/1067).

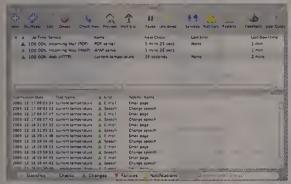


Peak Pro XT 5 ▲ (\$1,199; Peak Pro 5, \$599, Peak LE 5, \$129), from BIAS (www.bias-inc.com): Dedicated waveform audio-editing programs are indispensable tools for recording stereo sound, preparing files for larger multitrack projects, and polishing audio for CDs and other digital distribution. Whether you're a hobbyist producing Podcasts or a pro creating studio-quality projects, BIAS's Peak Pro XT 5 might be just what you need. The program adds significant value to the editing package via a generous selection of bundled effects (macworld.com/1061).

*** Rosetta Stone 3.0 ► (\$195), from Fairfield Language Technologies (www.rosettastone.com):

Rosetta Stone 3.0 provides an easy and well-organized way to learn a language on your Mac. If you're looking to learn a few simple phrases before you head off on

vacation, Rosetta Stone isn't for you. But if you're willing to invest some time in learning a foreign language, Rosetta Stone can provide a strong foundation (mac world.com/1068).



†‡‡‡ Simon 2.1 ▲ (basic license, \$30; standard license, \$60; enterprise license, \$195), from Dejal Systems (www.dejal.com): Simon 2.1 is a feature-rich tool that's ideal for Webmasters who need to monitor a variety of Internet services. You can also use Simon to keep track of local applications: it can determine whether specific programs are installed or running. Simon's many testing and notification options give you a great deal of flexibility, although the program's price is somewhat high (macworld.com/1069).



†‡ VideoImpression 2.0 ▲ (\$50; upgrade, \$30), from ArcSoft (www.arcsoft.com): VideoImpression 2 is an iMovie-like video-editing application that can also create slide shows from your digital photographs. The program, which typically ships with consumerlevel digital photo and video cameras, was originally created for Windows and has recently been ported to the Mac. But now that it's here, there are not many reasons to consider this program as an alternative to Apple's stellar iMovie application (macworld .com/1063).



The switch is ON

Everyone is moving to FontAgent Pro...

"FontAgent Pro is a revolutionary product that has provided consistent success for my customers where other font management products have failed!"

Sam Litt, Author of the Mac OS X Bible, Tiger Edition

"FontAgent Pro is simply the BEST font management tool I've found for Mac OS X."

Ted Padova, Author of Adobe Acrobat PDF Bible Co-author of Adobe Creative Suite Bible

"Surpasses the others..."

Andrew Shalat, InDesign Magazine, June/July 2005

"It is nice to see a company that is responsive to the ever-changing needs of Mac users, especially when it comes to almost yearly system updates."

Mark Lamhut, Paul-Mark Printing

"Nothing compares to FontAgent Pro in speed, accuracy and reliability. It is the best."

Chuck Sholdt, Vice President, Weather Central

"As a designer and consultant to creative professionals, I have found FontAgent Pro to be the best font manager on the market. Ease of use, rock-solid stability, and integrated diagnostics and repair set it apart. With FontAgent Pro, I don't get tech support calls anymore. FontAgent Pro just works."

Do'reen Hein, Artistic Designs, Apple Consultants Network Member

"FontAgent Pro is so simple and straightforward in its design that we now plan to extend the move to OS X and run FontAgent Pro on all our Macs."

F. Hersperger, Vice-Director, ECAV School of Art and Design

"FontAgent Pro from Insider Software aims to be the most comprehensively useful font management tool a designer can have... It proved to be every bit as good as it was billed."

Keith Martin, MacUser 2005

Isn't it time you switched to the world's best Macintosh font manager?

See the light... get Font Agent Pro today!

Insider

(866) 366.8778 (520) 229.1212

www.insidersoftware.com/mw

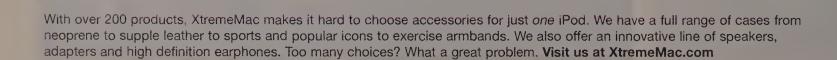
Visit us at Macworld Booth 621

See Smasher and the new FontAgent Pro Server

Copyright > 2005 Insider Software, Inc. All rights reserved. FontAgent is a registered trademark and FontAgent Pro, Insider and the Insider logo are trademarks of Insider Software









iPod Gear

For more iPod-related news and product reviews, visit playlistmag.com.

Midrange Headphones

**** PX 100** (\$60), from Sennheiser (www.sennheiserusa.com): Sennheiser's PX 100 headphones are still among

the very best in lightweight, over-thehead models. They have excellent audio detail and impres-

sive bass; few, if any, headphones in this class can compete with the PX

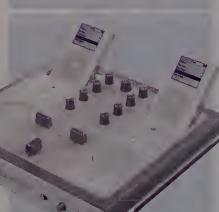
100 in terms of sound quality. They're also sturdy, extremely comfortable, and stylish. Plus, they fold up like a pair of eyeglasses and fit in an included hard case for protection during travel (macworld.com/1024).

**** SR 60 (\$69), from Grado Labs (www.gradolabs .com): Frequently described as "the gateway to audiophile sound," the Grado SR 60 headphones compete with the Sennheiser HD 497 for the title of "best full-size open headphones for less than \$100"—many models that cost twice as much don't sound as good. The retro-looking SR 60 headphones have punchy but natural sound and will floor most first-time listeners (macworld.com/1025).

> ****¹ DT 231 (\$60), from Beyerdynamic (www .beyerdynamic.com): If you're looking for excellent closed headphones that won't break the bank, the DT 231 model is a real winner. Providing balanced sound, very good detail, and impressive (but not excessive) bass, these headphones are also extremely comfortable, thanks to a spring-loaded headband cushion. Finding better closed headphones for under \$100 is

tough (macworld.com/1026).

NEW: MIXER



**** iDJ** (\$250), from Numark (www.numark.com): If you have two compatible iPods and want to be able to dock them at home in a DJ-style mixer, or if you're looking to hold iPod parties where friends bring their iPods and try mixing, the iDJ could fit the bill (it works with thirdgeneration, fourth-generation, fifth-generation, mini, and nano iPods). However, the iDJ's mediocre performance might mean that even amateur DJs will want to consider other options (macworld.com/1029).

iPODS

Product	Capacity	Rating	Price	Display	Battery-Life Maximum	Supported Media	More Information
iPod	30GB	****	\$299	2.5-inch color	14 hours of music playback, 3 hours of slide shows with music, 2 hours of video playback	music, photos, album art, video	macworld.com/1020
iPod	60GB	****	\$399	2.5-inch color	20 hours of music playback, 4 hours of slide shows with music, 3 hours of video playback	music, photos, album art, video	macworld.com/1021
iPod nano	4GB	**** ¹	\$199	1.5-inch color	14 hours of music playback, 4 hours of slide shows with music	music, photos, album art	macworld.com/1022
iPod nano	6GB	*** * ¹ / ₂	\$249	1.5-inch color	14 hours of music playback, 4 hours of slide shows with music	music, photos, album art	macworld.com/1023
iPod shuffle	512MB	****	\$99	N/A	12 hours of music playback	music	macworld.com/0368
iPod shuffle	1GB	**** ½	\$129	N/A	12 hours of music playback	music	macworld.com/0369



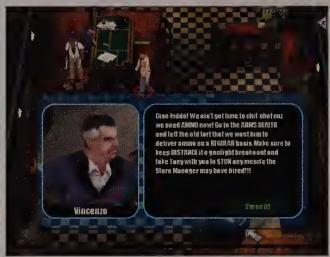
Game Room

BY PETER COHEN

SEE MORE GAME NEWS AND REVIEWS!

Go to www.macworld.com/games.





Goodfellas Gangland lets you show off your extortion, vandalism, and murder skills.

THIRD-PERSON SHOOTER

Gangland

Crime-themed games, which let you embrace your inner thug, are all the rage on PCs and consoles, but they rarely make it to the Mac. Perhaps that's just as well, if Virtual Programming's tepid Gangland is any indication of what we can expect from such games.

On the surface, Gangland sounds as though it should be fun—assuming that your tastes run toward the sociopathic. The game follows the story of a mafioso, newly arrived from Sicily, who has been sent to apprentice under his Uncle Vincenzo. As an up-and-coming hood in Paradise City, you're allowed to extort, vandalize, terrorize, and generally act like a cretin as you try to make money for the family. Uncle Vincenzo gives you orders, at least in the early stages of the game. These orders range from extorting ammo from a gun dealer to shutting up a stool pigeon.

The game is a mix of role-playing, real-time strategy, and third-person action. Unfortunately, it's extremely linear; there's not much variation to the missions you're given. The real-time strategy element comes into play as you manage resources such as personnel—that is, henchmen—to help with your dirty work. To do that, you'll need to take over restaurants in the area. The more restaurants you control, the more people you have at your disposal. Want guns and ammo? Strong-arm the guys who run the gun shops.

Sadly, the AI that controls your henchmen is ridiculously underdeveloped. My hired guns waded right into the middle of a gunfight as if RATING: **

PROS: Interesting combination of genres.

CONS: A dearth of online players; ridiculous dialogue; bad Al.

PRICE: £30 (about \$52 at press time)

OS X COMPATIBILITY: 10.2 (Jaguar), 10.3 (Panther), 10.4

(Tiger)

COMPANY: Virtual Programming, www.vpltd.com

nothing was happening, took as much damage as they could manage, and then keeled over dead. Yeah, real helpful.

Gangland's 3-D graphics look OK. You can tweak a variety of graphics options—resolution, level of detail, and more—to improve performance on your machine (the game requires an 800MHz G3 or faster Mac). The game also offers a multiplayer component. However, I couldn't find a single player online.

All of this low-rent *Godfather* tomfoolery might be tolerable—even enjoyable—if there were a reasonable hint of humor or irony attached to it. But this game too often tips over into the macabre or comes across as just plain stupid. To make matters worse, the voice acting that accompanies it is laughably bad, if not outright offensive to Italian Americans.

If you're interested in the game, you can purchase and download it directly from Virtual Programming's site. This means you won't have to wait weeks for a box to arrive from England.

The Bottom Line Gangland is a competent port of a mediocre, if not downright bad, game.

News Feed





Quake 4

Aspyr Media is bringing Quake 4 to the Mac in early 2006. Based on the Doom 3 graphics engine, Quake 4 picks up where Quake 2 left off—you're an elite warrior sent to battle the evil Strogg. In addition to offering a strong single-player component, the latest Quake features fast and furious online play.

Close Combat: Red Phoenix

MacSoft has announced that it will publish a Mac version of Close Combat: Red Phoenix. The game will combine the real-time strategy gaming that Close Combat enthusiasts have come to expect with all the psychological modeling that makes the series unique.

Call of Duty Deluxe Edition

Aspyr has released a compendium edition of the World War II—era first-



person shooter Call of Duty.
The Deluxe Edition box set includes the original game and its expansion pack, United
Offensive. You can play historic battles such as the Battle of Kursk, the Battle of the Bulge, and more.



AT LAST, SERIOUS ONLINE POKER FOR THE MAC.

Full Tilt Poker introduces new downloadable software, specifically designed for the Mac by members of Team Full Tilt. This is no half-baked Apple Java-compatible program like you'll find on other sites. Now Mac users can Learn, Chat, and Play online with the best poker pros in the world, including Phil Ivey, Chris Ferguson, Howard Lederer, and Jennifer Harman on the best Mac software anywhere. Sign up today and play for free at fulltiltpoker.net.

LEARN, CHAT & PLAY WITH THE PROS AT FULL TILT POKER.

Website for entertainment purposes only.





CHILDREN'S GAME

SpongeBob SquarePants: The Movie

***; Aspyr Media, www.aspyr.com; \$30

SpongeBob SquarePants: The Movie is an adventure game aimed at young fans of the popular cartoon series. The game loosely follows the plot of the similarly named 2004 movie: megalomaniacal Plankton has stolen King Neptune's crown and framed SpongeBob—a goofy, irrepressibly optimistic fellow who lives in a pineapple under the sea—and his best bud, Patrick Star, to save the day.

The game successfully maintains much of the charm and humor of the cartoon series. The action takes place primarily in static scenes as you interact with creatures and objects to push the story along and reach the next task. It's pretty basic stuff, though it requires that players be able to read. Sophisticated gamers won't find much challenge.

Unfortunately, unlike most Aspyr games, SpongeBob doesn't offer a windowed mode. This means that the game will have to reset the native resolution on LCD monitors—resulting in fuzzy graphics (macworld.com/1084).

CHILDREN'S GAME

Busy Days in Deerfield Valley

***; Bold Games, www.boldgames.com; \$20

This adorable and entertaining game, aimed at the preschool and kindergarten set, features characters licensed from equipment vendor John Deere. These cute, big-eyed vehicles have lots of work to do—and it's up to you to help them.

The game includes six separate activities. For example, you can help Eddie Excavator and Danny Dozer lay pipe, by matching similarly colored pipes, or you can help Luke Loader figure out how to put together pieces of a bridge.

Each activity is easy enough to be mastered by kids aged three to six—despite unintuitive controls in one of the games. Three levels of difficulty will help keep young players challenged. A sandbox mode lets you skip the planned activities



and instead play with the vehicles to your heart's content—digging holes, moving mounds of gravel, and more.

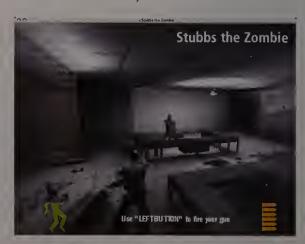
When players complete an activity, they're rewarded with coloring pages, which they can print and fill in away from the computer. I ran into an annoying redraw problem when printing pages; the problem disappeared when the screen changed or after a restart (macworld .com/1085).

THIRD-PERSON ACTION

Stubbs the Zombie

***; Aspyr Media, www.aspyr.com; \$40

This cheeky, off-color game puts you in the role of Stubbs, a zombie who has arrived in 1950s-era Punchbowl, Pennsylvania, with an unending hunger for gray matter. The game is rife with ribald humor. If fart jokes and situational



zombie humor are up your alley, it might just be a perfect match for you. If not, you'll probably find it over-thetop and occasionally in poor taste. The game is unapologetically blood-soaked and nasty, and it definitely earns its Mature rating.

I wish the game were a bit longer. Despite its multiple levels of difficulty, vou'll probably get no more than a few hours of enjoyment out of it. It also lacks the cooperative two-player mode found in the console version. Still, the game gets big points for style. It also has one of the best soundtracks I've ever heard, thanks to covers of 1950s pop tunes performed by modern bands such as Cake and the Dandy Warhols.

Stubbs the Zombie is sure to please gamers who like their action with hefty amounts of blood, and their humor a little on the twisted side (macworld.com/1086).

CHILDREN'S GAME

Care Bears: Catch a Star

***; ValuSoft, www.valusoft.com; \$20

Care Bears were treasured by little kids in the 1980s. Now that those fans are all grown up and have kids of their own, the bears are hoping to charm a new genera-



tion with a collection of games called Care Bears: Catch a Star.

Catch a Star includes eight minigames, which range from simple shape matching to memory tests. The games aren't taxing. And the developer has made no effort to beef them up with educational content—they're intended as simple diversions for four- to seven-yearold kids. However, I wish the game aimed higher. There's no common goal to work toward and no reward system for completing a task. The game also lacks offline content-my own kids love it when games reward them with craftoriented projects.

On the upside, system requirements are extremely mild. You'll need a 300MHz G3 or faster Mac and OS 9 or OS X. This makes it well suited for older Macs (mac world.com/1087).

According to his kids, Senior Editor PETER COHEN most resembles SpongeBob SquarePants's boss, Mr. Krabs.

Groove Cube Auto Mounts CARTune Hippod

Game Gear

PC Con Wireless

****; Mad Catz, www.madcatz.com; \$30

If you're looking for a game pad that closely resembles Microsoft's Xbox Controller S but you don't want the mess of wires, check out Mad Catz's PC Con Wireless game controller.

This attractive game pad mimics the design of the Xbox Controller S and is easy on the hands. The controller comes with a rectangular transmitter about the size of a pager, which plugs into your Mac's USB

port (though the transmitter's inconvenient design means you'll probably need to

use the included extension cable to avoid blocking other ports). The two devices communicate via 2.4GHz radio frequency signals. I only wish the controller came with a stand to recharge its three AA batteries.

The game pad doesn't include driver software, so there's nothing to configure. Games either support the pad or don't. For those that

don't, you can use a third-party utility such as USB Overdrive

> drive.com) to add support. At \$30, the PC Con Wireless is \$10 more expensive than the wired version. But it's a great choice for people who don't like clutter (mac world.com/1088).

(\$20; www.usbover

Mac Gems BY DAN FRAKES

GET MORE AND EXPANDED REVIEWS!

Go to www.macworld.com/macgems.

MAIL ENHANCER

DockStar 1.0

One of the things I've always liked about Apple's Mail application is that when new messages arrive, Mail's Dock icon tells you how many there are. However, one limitation of this feature is that the number displayed includes only the messages in your inbox; if you've got a number of Mail rules (automated actions that can be applied to messages as they arrive or whenever you're done with them) set up to automatically sort messages into folders—or if you've manually moved messages to other folders but kept their status as unread—Mail's Dock icon won't include those messages.

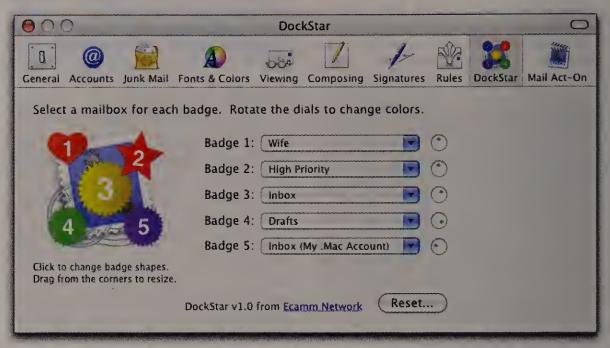
Recently I came across Ecamm Network's \$8 DockStar 1.0 (****; www .ecamm.com), a nifty Mail add-on that not only lets you decide exactly which unread messages Mail counts, but also lets you have up to five different indicators (to display, for example, the total number of unread messages you have, how many of those messages are from your work account, and how many personal messages are unread). Each indicator, or badge, can monitor any inbox or folder, including smart folders—I set up one of my badges to monitor the Drafts folder so I always know when I have messages I need to complete and send off. To make it easier to differentiate between badges, DockStar lets you choose the color, shape, and size of each one.

Granted, if you don't use Dock magnification and your Dock is getting crowded (and therefore has smaller icons), Dock-Star's display may be difficult to read. But I've found this add-on to be a real productivity enhancer—with a glance, I can see not only whether I've got new mail but also whether it's mail I need to pay attention to right away.

E-MAIL RULES UTILITY

Mail Act-On 1.3.1

Speaking of e-mail, as much as OS X's Mail application has improved over the



You've Got (Specific) Mail DockStar can provide as many as five different new-message indicators via Mail's Dock icon.

past couple of years, those improvements haven't yet compelled me to switch from using Microsoft Entourage as my primary e-mail client. Two of the reasons I still prefer Entourage are the thriving community of scripters that add functionality to the program, and its superior rules.

That said, I do use Mail regularly, just to stay in the loop on how it's developing and to keep an eye out for available addons (and I haven't ruled out switching if Mail meets my needs at some point). Another cool app that I've come across is Scott Morrison's free Mail Act-On 1.3.1 (***; www.indev.ca). Simply put, Mail Act-On lets you use the keyboard to invoke e-mail rules. But that simple explanation belies how much functionality the program can actually provide. Anything you can do with a rule in Mail—move, copy, forward, redirect, reply to, or delete a message; set the color and read or

Mail Act-On

Bounce Dock Icon

Flag and Move to Friends

Color Message Red

E-mail Automation Mail Act-On gives you keyboard control of custom Mail rules.

flagged status of a message; or even run an AppleScript—you can do via the keyboard using Mail Act-On.

That may not sound like a big deal, but trust me—Mail Act-On gives Mail functionality it has never had before. Selecting one or more e-mail messages and then pressing the user-definable activation key brings up Mail Act-On's shortcut screen. Activate a rule, and the program briefly displays a confirmation alert, letting you know exactly what you just did (a nice touch when you've unintentionally done something but don't know what).

In addition to letting you apply a rule to any message (or group of messages) on-the-fly, Mail Act-On overcomes one of Mail's biggest rule weaknesses—it lets you apply a single rule to selected messages (Mail's Apply Rules command applies all rules). This means that you can use individual rules to process messages after they've been received. For example, you can set up a rule to automatically move selected messages to a Friends mail folder and assign that rule to the F key.

To create rules, you use Mail's Rules preference pane, but you need to set the condition part of the rule to read "If any of the following conditions are met: Every Message," and you need to name your Mail Act-On rules using this syntax: Act-On: key | rulename (replacing key with the

key you want to use as the rule's shortcut, and replacing *rulename* with the name you want to give the rule).

One caveat here is that rules you create for Mail Act-On should be placed at the end of the rules list, after any rules you create for handling all incoming mail. To avoid problems, the program automatically creates a rule called Act-On: Stop Processing Receive Rules; this rule ensures that your Mail Act-On rules don't get applied to all incoming messages. Simply drag your new Mail Act-On rules below this rule and make sure any rules you want to apply to all incoming mail are moved above it.

I mentioned earlier that one of Mail Act-On's great features is that it lets you apply a single rule to selected messages. But it can also apply multiple rules to a message or group of messages. If you assign several different rules to the same key, pressing that shortcut will apply all of those rules to the selected messages. Mail simply doesn't allow you to do this.

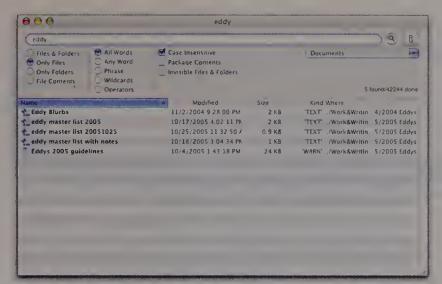
The only issue I've had with Mail Act-On is that when I use it with IMAP messages, sometimes it doesn't properly set the read or flagged status of messages when the action also involves moving a message to a folder. I had to create two separate rules instead. But Mail Act-On is such a cool add-on for Mail that if I ever do switch from Entourage, Mail Act-On will get a big chunk of the credit.

SEARCH TOOL

EasyFind 3.8.1

I'm sure that as Apple releases updates to OS X, Spotlight will improve. But in the meantime, I get frustrated when I try to perform even the simplest searches. Recently I wanted to find a file with the word Eddy—as in Macworld's yearly Editors' Choice (or "Eddy") Awards—in the title. After more than a minute, Spotlight gave me 31 results: some that included the word in the contents of the file, e-mail messages, iChat logs, music files, and even Safari bookmarks. So I had to spend even more time weeding through Spotlight's results to find the desired file.

There are various tricks for making Spotlight more useful, but DevonTechnologies' free EasyFind 3.8.1 (****\frac{1}{2}; www.devon-technologies.com) has worked well for me. EasyFind offers a simple search field with a number of easy-to-understand options: what to search (file



Faster Finder EasyFind can often find files faster than Spotlight.

names, folder names, and file contents); type of search (items containing all the search words, any of the search words, or the complete phrase—you can also use wild cards or operators); search parameters (case sensitivity and whether to include invisible items, for example); and search location (which volumes or folders). In my case—searching my Documents folder for a file with *Eddy* in the title—it took four seconds to get a list of all matching documents.

Once you find a file, you can doubleclick on its name in EasyFind's results list to open it, or use drag and drop to work with it. Unlike with Spotlight, however, you see important information about each file-modification date, size, kind, and location—without having to click on another button. (Hold the mouse pointer over the Where value to view the full path to the file.) And if you want more information about a particular item in the results window, the Finder's standard Get Info shortcut (\mathbb{H}-I) displays the Get Info window for that item. You can even delete items immediately—bypassing the Trash—by selecting them and choosing Destroy from the File menu.

EasyFind's speed does vary dramatically depending on the type of search performed. Unlike Spotlight, EasyFind doesn't constantly index your hard drive's contents, so its searches are true file searches. For a limited search such as the one I performed, EasyFind is much faster. However, when I performed the same EasyFind search on my entire hard drive, it took nearly 50 seconds. That's still much faster than Spotlight, but keep in mind that EasyFind was searching only file names, not file contents. When I searched the contents of files just in my Documents folder, EasyFind took approximately the same amount of time as Spotlight, which was searching the contents of most of my hard drive. This limitation means that I leave the file-contents searches to Spotlight and its contents index.

For power users, EasyFind also offers a number of advanced features not available or not easily accessible in Spotlight. For example, if I want to find files with either Eddy or Eddys in their names, I would search

for *Edd**. You can also use Boolean operators—a search for *Eddy NOT 2005*, say, would find documents containing *Eddy* but not 2005 in their file names.

There's also a hidden group of settings that let you customize the types of files EasyFind searches when it examines file contents. You can designate up to five lists of file extensions and file types. (EasyFind includes useful sample lists.)

If you're tired of Spotlight's slow performance—especially for the most basic types of searches—give EasyFind a try. It's free, it uses very little memory, and it's blazingly fast for many types of searches.

PRODUCTIVITY APP

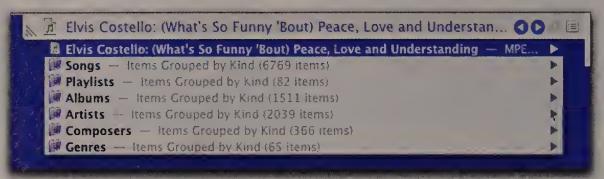
LaunchBar 4.0.2

As long as we're talking about Spotlight's shortcomings, it's worth mentioning that although Apple's search technology lets you find and launch applications, that's not really its strong suit. For fast launching, Objective Development Software's \$20 LaunchBar 4.0.2 (*****; www.obdev.at) puts Spotlight to shame.

With LaunchBar, you press a keyboard shortcut and start typing a few representative letters of an application's name. When you see the correct application displayed, press return to launch it. Whereas Spotlight will find only items on your hard drive that contain an exact search phrase, LaunchBar makes educated guesses. Depending on how you configure its preferences, it can intelligently search applications, documents, contacts, bookmarks, music files, and many other kinds of items.

But what makes LaunchBar such a time-saver is that it actually learns. For example, the first time I typed x1, LaunchBar's top hit was an application called Xlocate. But I was really trying to

continues



Keyboard Access With LaunchBar, your applications and documents—and even your iTunes library—are just a few keystrokes away.

launch Microsoft Excel, so I instead chose Excel from the list. LaunchBar learned that preference and now, whenever I type x1 in LaunchBar, Excel is the default selection. Using this process, I've taught LaunchBar that ps means Adobe Photoshop, du means Disk Utility, trans means Panic's Transmit, and so on. The more you use LaunchBar, the better it operates.

But the program isn't limited to finding and opening files and applications. For example, if you activate it and type \mathbb{H} -R, you get a list of currently running applications and a way to quickly switch between them. You can even drag and drop files onto an application in LaunchBar, to open them in that application, or drop them onto a folder, to move or copy them to that

folder—making LaunchBar a handy file-management utility. You can also open individual System Preferences panes (for example, typing displays gives you the Displays preference pane as the first hit). And as I mentioned, you can search bookmarks, e-mail messages (in Mail), contacts (in Mail or Entourage), browser history, and much more.

LaunchBar 4 has a number of other useful features. One of my favorites is the ability to access recently used documents in any application: when you've found your desired application, press the right-arrow key, and you'll get a list of recent documents opened in that app. LaunchBar can also browse the databases of particular programs. For instance, with iTunes, pressing

the right-arrow key lets you browse your iTunes library by song, playlist, album, artist, composer, or genre; choosing an item from the list plays it in iTunes.

LaunchBar 4 also offers some new features for Web browsing. For starters, you can browse your Safari bookmarks and history. But you can also visit a Web site in your browser by activating LaunchBar, pressing \mathfrak{H}-L, and then typing or pasting the desired URL. And LaunchBar also provides quick access to a number of popular search engines.

I haven't even mentioned file-contents searching, Finder actions, working with Terminal, changing network locations, and much more. LaunchBar is one of those rare programs that are simple and nonintimidating when it comes to their most basic—and most useful—features but can be as powerful as you want them to be.

IPOD PHOTO EXTRACTOR

Keith's iPod Photo Reader 1.1

iTunes makes it easy to load pictures onto photo-capable iPod models. But

THE CONQUEST

DiskWarrior is Now OS X Native

It's the indispensable utility that repairs problems such as disks that won't mount, files you can't trash, and folders that have disappeared. MacUser magazine said, "It's the fastest and safest data recovery utility you can buy."

Macworld magazine said, "DiskWarrior is by far the best disk utility available for the Mac; it can repair virtually any disk problem you may encounter...and it is likely to become the only tool you'll want to keep with you at all times."

David Coursey, ZDNet AnchorDesk, agrees in an article comparing disk utilities. He used it to fix a disk that no other utility could. "DiskWarrior is a great product, not just because it fixed a pretty serious screw-up, but because it showed me what it planned to do in minute detail before doing it."

But disk damage isn't the only threat to your data. As hard drives get older, the drive mechanisms



Phone: 1-800-257-6381 Fax: 281-353-9868 Email: sales.info@alsoft.com Web Site: www.alsoft.com ©2003 Alsoft, Inc. DiskWarrior is a registered trademark of Alsoft, Inc. Other product names are trademarks of their respective companies.

how about getting photos off of an iPod? While I was visiting relatives, many family members requested that I e-mail them specific photos they saw on my iPod. I wrote down who wanted which photos and then grabbed them from iPhoto when I got home. But I thought there had to be a better way.

I can tell iTunes to include the full-resolution photos when I sync, which adds the originals to the iPod's Photos folder. From there, I just connect the iPod to a computer and copy over the images. But I have a lot of photos, so the full-size versions would take up half my iPod's storage space. That leaves me with the lower-resolution versions that iTunes converts and then stores on your iPod for viewing and slide shows. Unfortunately, these are stored in a proprietary .ithmb format that standard image-viewing and -editing apps can't touch.

The solution is Keith Wiley's free Keith's iPod Photo Reader 1.1 (****: www.unm.edu/~keithw/), a utility specifically designed to make sense of these ithmb files. Once you plug your iPod into any Mac (and tell iTunes not to link the iPod to that computer), just launch Keith's iPod Photo Reader and select



Picture 'Pod Keith's iPod Photo Reader can grab images from your iPod on-the-go.

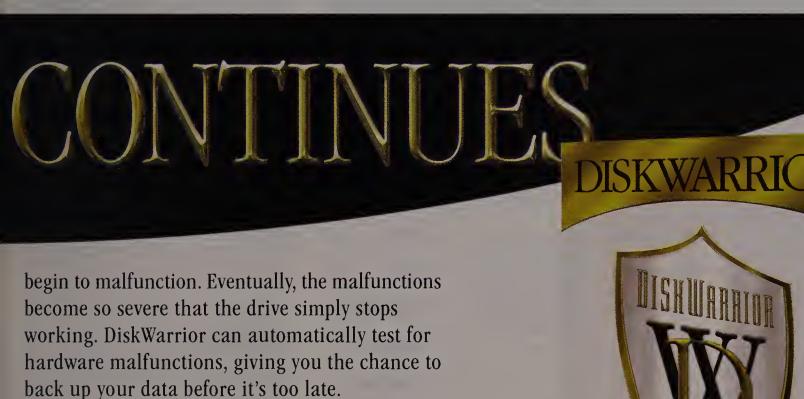
the option and files you want. Once the conversion procedure has finished, you'll see thumbnails of your images and you can then save individual pictures to that computer.

Unfortunately, Keith's iPod Photo Reader does have some flaws. For one thing, the utility's menus are a mess the Edit menus is completely empty, and even the Quit item is in the wrong place. The photos you extract from your iPod are in PICT format rather than JPEG or another cross-platform type, which means that you'll have to convert them if you want to give them to a Windows user. Finally—and this is a limitation of the photos stored on the iPod, not of Keith's iPod Photo Reader-the maximum resolution of images (720 by 480) is suitable mainly for e-mail or Web use, not for printing.

Despite these problems, I've already used

Keith's iPod Photo Reader to grab copies of photographs off of my iPod when I've been away from home. It's a useful utility that I've copied to my music player's hard drive so I'll always have it on hand.

DAN FRAKES (www.danfrakes.com) is a *Macworld* senior editor. Send your thoughts on this column, or on things you'd like to see in future *Mac Gems* columns, to macgems @macworld.com.



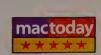
Be prepared. Don't wait until after you have a disk disaster to buy your copy of DiskWarrior. Bob LeVitus, aka Dr. Mac, said, "I feel naked without DiskWarrior." You can believe MacHome magazine when they said, "DiskWarrior is a quick, one-click solution to faster, more stable hard drives."















op Products

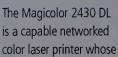
YOUR GUIDE TO THE BEST HARDWARE WE'VE TESTED

SEE MORE HARDWARE **REVIEWS!**

Go to www.macworld.com/reviews.

COLOR LASER PRINTER

**** Magicolor 2430 DL (\$499), from Konica Minolta (www .konicaminolta.com):



setup could use a bit of finessing. But it has an attractive low price, accurate and saturated color prints, and unique features such as PictBridge camera printing. It could be a great buy for a home or a small workgroup that doesn't require PostScript printing capabilities. Beware: this printer is noisy (macworld.com/0635).



**** Stylus Photo R340 (\$200), from Epson (www.epson.com):

For home use, Epson's Stylus Photo R340 prints the best color photos in its class. Its ability to print to CDs and DVDs extends its usefulness. Its only weakness as a photo printer is its subpar black-and-white prints (February 2006; macworld.com/0948).

**** Pixma iP6600D (\$200), from Canon (www.canon.com):

The Pixma's six inks print great-looking photos with or without your Mac. It has a large color LCD and autoduplexing (February 2006; macworld.com/0950).

PHOTO INK-JET

DRIVES

FIREWIRE

DESKTOP DRIVE

******* Black Series Triple Interface, 250GB (\$240), from lomega (www.iomega



You can't go wrong with its speed, connection options, and low price per gigabyte (macworld.com/0580).

ALSO RECOMMENDED:

**** Mercury Elite-AL Pro 7,200 rpm FireWire 800/400+ USB2, 250GB (\$220), from OWC (www.macsales.com):



It's fast, has various connection options, and can boot OS X via FireWire (macworld.com/0580).

PORTABLE DRIVE

*** Mercury On-the-Go 7,200 rpm 8MB, 60GB (\$225), from OWC (www.macsales.com):



Loaded with useful utilities, this little drive has good connection options and an eye-catching design (macworld.com/0580).

ALSO RECOMMENDED:

*** ComboGB, 60GB (\$250),

from WiebeTech (www .wiebetech.com):

Though it comes at a relatively high cost per gigabyte, this drive is fast and has many connection options (macworld

.com/0580).

MACS

DESKTOP							
Product	Processor	Display	Rating	More Information	Best Price ^A	Speedmark Score®	Maril for parties 200 across and
iM	G5/1.9GHz	17 inches	****	macworld.com/0943	\$1,249		178
#0000 - Southern Comments of the Comments of t	G5/2.1GHz	20 inches	****	macworld.com/0944	\$1,600		190
eMac	G4/1.42GHz (Combo drive)	17 inches	* * * ¹ / ₂	macworld.com/0602	\$794		140
	G4/1.42GHz (SuperDrive)	17 inches	****	macworld.com/0603	\$974		142
Mac mini	G4/1.25GHz (Combo drive)	not included	* * * * * * *	macworld.com/0316	\$488		100
	G4/1.42GHz (Combo drive)	not included	****	macworld.com/0321	\$580		115
	G4/1.42GHz (SuperDrive)	not included	***** ¹ / ₂	macworld.com/0709	\$649		115
Power Mac	G5/quad-core 2.5GHz	not included	****	macworld.com/1089	\$3,100		257
	G5/dual-core 2GHz	not included	****	macworld.com/0942	\$1,743		215
	G5/dual-core 2.3GHz	not included	****	macworld.com/0945	\$2,386		236
	G5/dual-2.7GHz	not included	****	macworld.com/0606	\$2,549		253
PORTAB	LE						
iBook	G4/1.33GHz	12 inches	****	macworld.com/0705	\$940		106
	G4/1.42GHz	14 inches	***	macworld.com/0706	\$1,220		111
PowerBook	G4/1.5GHz	12 inches	****	macworld.com/0399	\$1,230	not tested	
	G4/1.67GHz	15 inches	****	macworld.com/0946	\$1,665		135
	G4/1.67GHz	17 inches	****	macworld.com/0947	\$1,939		134

From a PriceGrabber survey of retailers as of January 18, 2006. Speedmark 4 is Macworld Lab's standard test tool for benchmarking systems running Mac OS X 10.4 (Tiger). For information on Speedmark testing, go to www.macworld.com/speedmark.

MINIDV CAMCORDER

**** Optura 60 (\$899),

from Canon (www .canon.com):

The Optura 60 shoots excellent video (as long as you have enough light) with



true-to-life, vibrant color. It also offers optical image stabilization, a true 16:9 wide-screen mode, and extensive manual controls for creative flexibility. It snaps decent still images, too (macworld.com/0621).

DIGITAL **CAMERAS**

BUDGET CAMERA

*** Photosmart M22 (\$150), from Hewlett-Packard (www.hp.com);

macworld.com/0595



FOR DIGITAL PHOTO **BEGINNERS**

**** PowerShot SD400 (\$399), from Canon (www.canon.com); macworld.com/0634



FOR INTERMEDIATE **SHOOTERS**

*** C-7070 Wide

Zoom (\$600), from Olympus (www.olympus.com); macworld.com/0577



FOR ADVANCED AMATEURS

**** Dimage Z5 (\$649), from Konica Minolta (www.konica



DIGITAL SLR CAMERA

**** EOS Digital Rebel

XT (\$899; with lens, \$999), from Canon (www.canon.com); July 2005; macworld .com/0535



DUAL-LAYER DVD BURNER

DVD±RW 16× FireWire with **Double Layer** (\$129), from LaCie (www.lacie.com):



This unit can burn 8.5GB of data to dual-layer DVDs (which offer twice the capacity of singlelayer discs). It has two FireWire 400 connectors. Its performance is very good overall--it burns 2.4x-rated dual-layer media at 4x. It supports OS X 10.4 (Tiger) and iLife (except for iDVD), and it comes with the full version of Roxio's Toast Titanium (April 2005; macworld

FLATBED SCANNERS

MIDRANGE SCANNER

**** CanoScan 9950F

(\$400), from Canon (www.canon.com):

The CanoScan 9950F offers improved scan quality and more-intuitive software controls. This model tops its predecessor, the 9900F, in almost every way (macworld.com/0188).

LOW-END SCANNER

**** CanoScan 8400F

(\$150), from Canon (www.canon.com):

The 8400F has limited transparency support but is a great all-around scanner (macworld.com/0187).

LCD MONITORS

23-INCH DISPLAY

**** L2335 (\$1,299). from Hewlett-Packard (www.hp.com):

Along with its outstanding value and ability to pivot to portrait mode, the L2335 also

provides excellent video-in options and very good color fidelity and viewing angle (March 2005; macworld.com/0278).

20-INCH DISPLAY

******* MultiSync LCD2070NX (\$799), from NEC (www.necdisplay.com):

The MultiSync LCD2070NX is great for people who want a moderately priced 20-inch monitor that can display bright, accurate colors (macworld.com/0636).

19-INCH DISPLAY

**** SDM-HS95P (\$550),

from Sony (www.sony.com): This display lacks some features (such as a USB hub, speakers, and the ability



to pivot), but it's a bright and nicely designed LCD (macworld.com/0638).

17-INCH DISPLAY

****** SDM-HS75P** (\$400), from Sony (www .sony.com):

It doesn't have built-in USB support, speakers, or the ability to pivot, but the SDM-HS75P is a good choice for people who have limited desk space (macworld.com/0637).

Top Products are those we've recently reviewed in a comparison of like products. As new products become available, we will update the list. For longer reviews of these products and for other product recommendations, go to www.macworld.com/reviews.

MACWORLD LAB

Hardware Products We Tested This Month

PORTABLE FIREWIRE HARD DRIVE

**** Mobile Hard Drive, Design by F.A. Porsche, 100GB (\$250), from

LaCie (www.lacie.com): When it comes to portable drives, it's hard to beat

the petite, stylish 100GB LaCie Mobile Hard Drive. It's fast, it's FireWire bus-powered, and it can boot OS X (macworld.com/1044).

19-INCH DISPLAY

*** MultiSync LCD1970VX (\$440), from NEC (www

.necdisplay.com):

The NEC LCD1970VX is a decent monitor with some nice fea-

tures, like height adjustment, dual inputs, and the ability to pivot to portrait mode. But unless your eye is focused solely on the bottom line, you can find displays with better viewing angles and cleaner text for a few dollars

more (macworld.com/1046).

COLOR LASER PRINTER

*** Phaser 6120/N (\$499), from Xerox (www.xerox.com):

If you're shopping for an inexpensive color laser printer, you should consider

the Xerox Phaser 6120/N. It gives you excellent photographic image quality,

networking, and PostScript 3 features, and an abundance of high-end optional upgrades. Though no speed demon, it's fast enough for most users (macworld.com/1047).

COLOR LASER PRINTER

*** C522n (\$499),

from Lexmark (www .lexmark.com):

Lexmark's inexpensive color laser offers quick print speeds, Bonjour support, and high-end features like Ethernet and PostScript 3 emu-



lation. Though it may be a tad loud for tight workspaces, the C522n is an affordable way for small and medium-size businesses to add color to documents and presentations (macworld.com/1045).

Want to Speed Up Your Mac? Lots of Little Tweaks Here and There Can Add Up to a Big Performance Boost.

The Ultimate Mac Mac Tune-Up

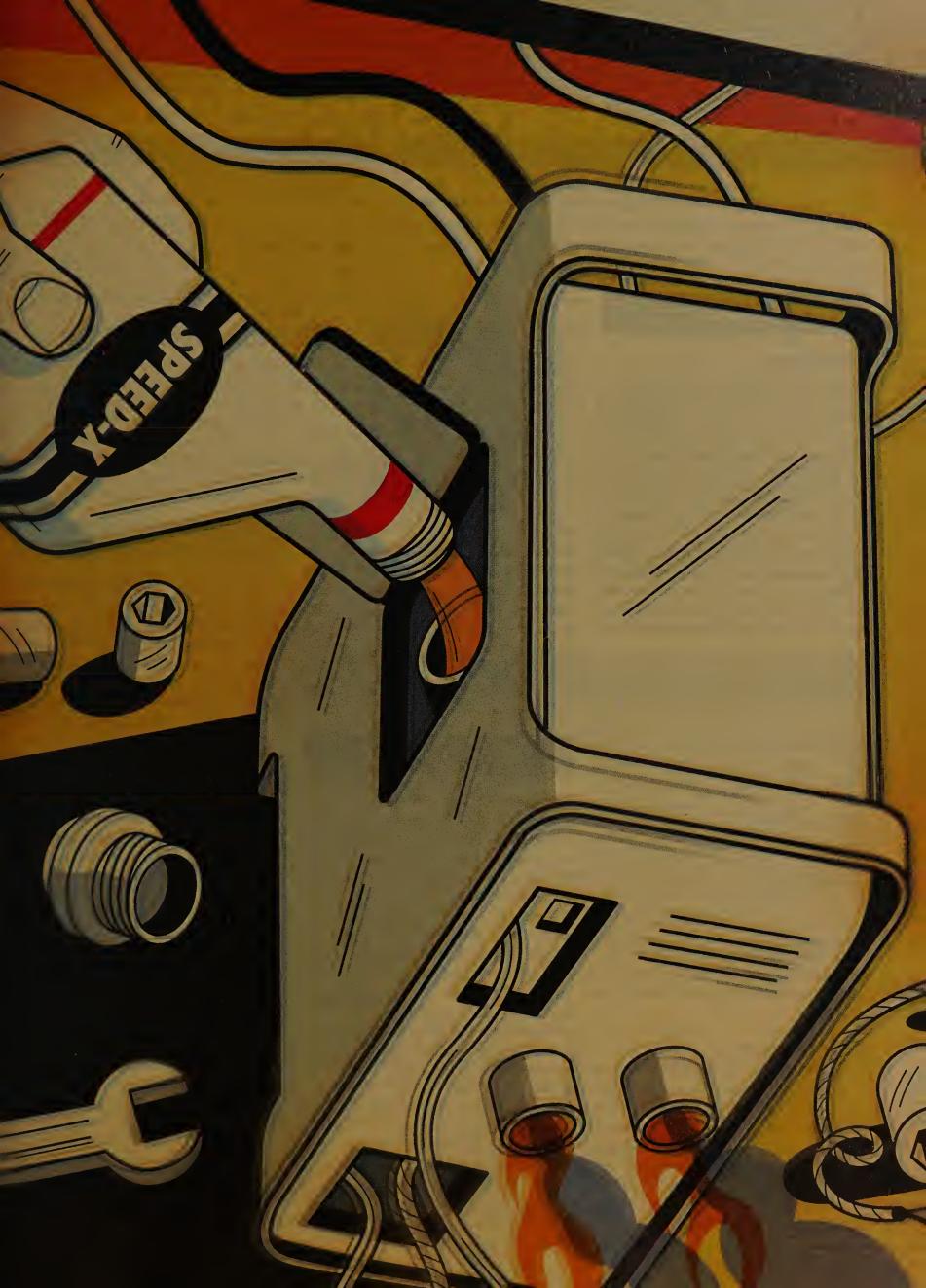
pple does a pretty good job of making sure your Mac's performance is well tuned right out of the box. So there aren't many single things you can do to make your Mac dramatically faster. But like a mechanic tightening this and loosening that, you can do lots of little things that will speed up your Mac just a bit. Add these tweaks all together, and your system will indeed feel snappier.

Start with the software. There's only so much you can do to make OS X itself faster. (For a few suggestions about what you can do, see "Top OS X Tips" [page 54].) But you can tweak individual *applications* to make them—and your system as a whole—feel more responsive. See "34 Software Speedups" (page 52) to find out how to speed up Apple Safari, iTunes, and iPhoto; Mozilla Firefox; Microsoft Office; and more.

Then there's hardware. Conventional wisdom says you can never have enough RAM. Well, as it turns out, you can: according to our lab tests (see "Bang for Your RAM Buck" [page 57]), going from 256MB to 512MB will give most users a substantial speed boost, but going from 512MB to 1GB won't do as much. To find out how much memory you really need, and for tips on how to perform a RAM upgrade right (and what to do if things go wrong), see "RAM FAQs" (page 57) and "Is Your Memory Bad?" (page 58).

Like we say, none of these things on its own will make your Mac a new machine. But take enough little steps, and pretty soon they'll add up to one big leap forward.

TELUSTRATION BY JANUAY CAMPREEL



34 Software Speedups

While OS X may be pretty well tuned for performance, individual applications aren't. You can tweak your apps in plenty of ways to make sure they're operating at top speed. Here are a few of our favorite tricks. **By Joe Kissell**

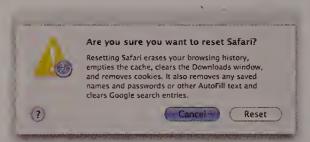
Safari

Less Filling

Many of us tell Safari to remember form information so we don't have to. But as with the cache, the resulting AutoFill lists can grow to an unwieldy size over time. To clean them up, choose Safari: Preferences, and then select the AutoFill pane. Once you're there, check to see whether User Names And Passwords or Other Forms is selected. If either one is, click on the Edit button next to it. Go through the resulting list, select any items you don't recognize or no longer need, and click on the Remove button. (I don't recommend clicking on Remove All, no matter how tempting it is.)

Forget Your History

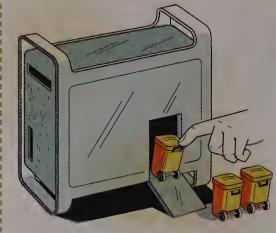
Safari remembers hundreds of Web pages you've visited recently. (To see which ones, just go to the History menu.) But this list of visited sites can be a drag on your browser. To clear it, choose History: Clear History.



Fresh Start Resetting Safari *can* speed up your browser, but it can also get rid of some valuable information, such as stored names, passwords, and AutoFill text.

Clear Favicons

Favicons—those tiny icons you often see in the address bar to the left of a URL—can help you identify a site quickly. But if you visit enough sites that use them, they can accumulate and start bogging down your browser. To delete them, first quit Safari. Then locate *your user folder/* Library/Safari/Icons and drag this folder to the Trash.



SAFARI

Empty Your Cache

To reduce the time it takes to load pages and images, Safari stores previously viewed content in its cache. But if this cache gets too big, performance can actually slow down as Safari sorts through it. To start over fresh and reduce those lookup times, choose Safari: Empty Cache (or press #-option-E).

Reset Safari

If you'd rather not go through each of these tasks one at a time, you can take a more drastic step. Safari: Reset Safari will delete your caches, history, AutoFill entries, and cookies, though not your favicon or Java caches. But beware: you'll end up having to reenter all your passwords and reconfigure your favorite Web pages.

Mozilla Firefox

Get the G5 Version

If your Mac has a G5 processor, you can download a special version of Firefox that's optimized to get the best performance from your CPU. (To get this version, go to macworld.com/1079.)

Optimize Hidden Settings

Firefox has hundreds of hidden settings you can see and adjust by typing about:config in the address bar and pressing return. (To learn more about these settings and how to edit them, see mac world.com/1079.) For example, to increase the number of HTTP requests sent at one time, change the net work.http.pipelin

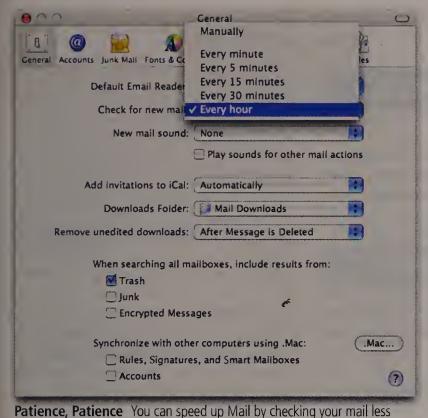
ing and network.http.proxy.pipe lining values to true and set net work.http.pipelining.maxrequests to 8. To eliminate the quarter-second delay before Firefox begins drawing a page, control-click (or right-click) anywhere on the page and choose New: Integer from the contextual menu. Enter nglayout.initialpaint.delay as the name and 0 as the value (see "In the Pipeline").

Reduce Extensions

Firefox extensions are terrific—and terrifically easy to find and install. But installing too many of them can slow down your browser. To winnow some of them out, choose Tools: Extensions and look for any extensions you no longer use. Select them and click on Uninstall; then restart Firefox.



In the Pipeline You can speed up Firefox by tweaking a bunch of hidden network settings in the about:config window.



frequently; the less often Mail has to check mailboxes, the faster it'll feel.

Mail

Reduce Mailbox Sizes

The more messages you have in a mailbox, the longer Mail will take to display it. If you have a mailbox with more than 1,000 or so messages, consider splitting it into two or more smaller mailboxes. The inbox is especially sensitive to large numbers of messages, and more so with IMAP accounts than with POP ones. So make an effort to keep your inbox relatively clear by filing incoming messages as soon as possible.

Check Mail Less Frequently

Mail always slows down a bit when checking messages, so if you set it to do so less often, it will feel faster. Choose Mail: Preferences, click on the General button in the toolbar, and choose a less frequent schedule from the Check For New Mail pop-up menu (see "Patience, Patience").

Check Previous Recipients

Mail maintains a list of everyone to whom you've sent a message, and it consults this list when you address new messages. If your Previous Recipients list gets too long, addressing can get pretty poky. Choose Window: Previous Recipients, select any address you don't use frequently, and click on Remove From List.

Tweak IMAP Settings

If you use IMAP to retrieve your e-mail messages, several additional settings may

significantly affect Mail's speed.

> If you store Drafts, Junk, and Trash on the server, Mail can take some time to synchronize those mailboxes every time you connect. So consider storing those messages locally instead. To do so, choose Mail: Preferences, click on the Accounts button in the toolbar, and click on the Mailbox Behaviors tab. Remove check marks from the check boxes for message types you want to store locally. (You can do the same thing for sent messages, but the benefit of leav-

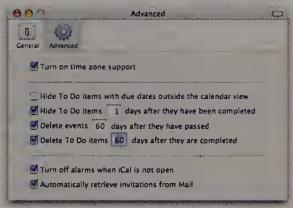
ing them on the server may outweigh any performance penalty.)

> In the Advanced tab of the Accounts window, make sure the Automatically Synchronize Changed Mailboxes option is *not* selected.

iCal

Remove Old Events

Smaller calendars are generally zippier. If your calendar files are crammed, consider removing old items. To do so, save a copy of each calendar file by selecting it and choosing File: Export. Then choose iCal: Preferences, click on the Advanced button in the toolbar, and select the Delete Events _ Days After They Have Passed and Delete To Do Items _ Days After They Are Completed options, entering a number of days you're comfortable with

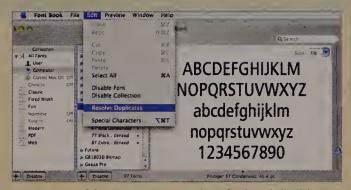


Lean and Mean Periodically and automatically purging old events from your iCal calendars will help them load—and feel—faster.

Font Fixes

CLEANING UP your fonts can help keep all your applications running smoothly.

Zap Duplicates First, disable duplicate fonts—without removing them—by using Font Book (in /Applications). Look for fonts with a bullet (•) next to them; that indicates a duplicate. Select the font and choose Edit: Resolve Duplicates.



Seeing Double Using Font Book to find and disable duplicate fonts can speed up your whole system.

Weed Out Corruption Next, select all the fonts in the Font list and choose File: Validate Fonts. Font Book displays a window with icons indicating each font's status. If a font contains errors, select it and click on the Remove Checked button.

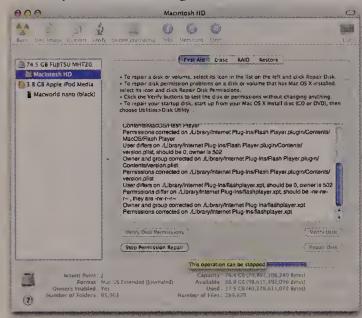
Although Font Book can identify errors, it can't fix them. For that—and for more-extensive font testing—try a commercial utility such as Insider Software's FontAgent Pro (\$100; www.insidersoftware.com) or Morrison Soft-Design's FontDoctor (\$70; morrisonsoftdesign.com).

Cache Out OS X creates font caches in several locations. If OS X caches a damaged font, the cache will also contain errors and should be removed. The easiest way to find and remove font caches is to use Mark Douma's Font Finagler (\$10; macworld.com/1098). First delete (or at least disable) any damaged fonts, and then run Font Finagler. After you delete your font caches, restart your Mac.

(see "Lean and Mean"). The next time you open iCal, it will purge the old events from your calendar.

Reduce Subscriptions

The more calendars you subscribe to, the longer it takes iCal to load each one. If you've subscribed to large calendar files stored on other servers, updating can take quite a while. Try removing unneeded subscriptions or downloading the .ics files to your Mac, adding them to iCal,



Permission Granted In the case of Office 2004, repairing permissions really can improve performance.

and updating them manually from time to time.

Microsoft Office 2004

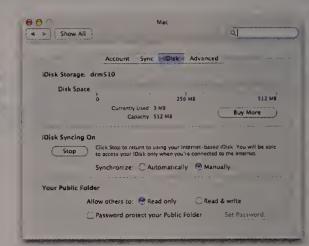
Turn Off Syncing

If you're a .Mac subscriber and you have iDisk Syncing set to Automatic, Office apps may take a long time to display Open and Save dialog boxes. To speed them up, go to the .Mac preference

pane's iDisk tab and either turn off syncing by clicking on the Stop button or select the Manually option to disable automatic synchronization (see "Faster Files").

Repair Permissions

Microsoft says that repairing permissions can correct certain Office 2004 performance problems. Open /Applications/Utilities/Disk Utility. Select your startup volume from the list on the left, click on the First Aid tab, and then click on the Repair Disk Permissions button (see "Permission Granted").



Faster Files Turn off iDisk syncing, and Office 2004's Open and Save dialog boxes will open faster.

Fix Fonts

Office maintains its own font cache, which can cause problems if damaged. To delete this cache, quit all Office 2004 applications and then drag the file /your user folder/Library/Preferences/Microsoft/Office Font Cache (11) to the Trash. (For more font tips, see "Font Fixes.")

Microsoft Entourage

Rebuild the Database

A damaged Entourage database file can lead to poor performance. To check on yours,

Top OS X Tips

WANT MORE SPEED from OS X? The operating system is pretty good at keeping itself in good shape, so there isn't actually a whole lot you can do to improve OS performance. You can, however, give it a few little boosts. None of these techniques will turn your aging G3/500MHz iBook into a new dual-G5 Power Mac—but every little bit helps.

Reduce Desktop Clutter The desktop can be a great place to drop stuff, but because of the way OS X handles desktop icons, putting stuff there can also slow your system down. The operating system treats each desktop icon just like a full-size Finder window—the icon takes up a chunk of memory,

and the system has to track its position and size at all times. Drop enough files and folders on your

desktop, and you may start to notice side effects (such as spinning beach balls)

when you're trying to do something as simple as open a new Finder window. Here's one simple way to cut down on the clutter (and system drag) without losing that handy storage place: create a folder or two on your desktop (call them Need To Look At and Things To Do, for

example), and then move all the items from your desktop into the new folders.

Tweak the Finder For machines with older video cards, disabling some of the Finder's visual animations (zoom effects, scrolling info panels, and so on) can provide a notable increase in speed. Although you can do this in Terminal, the easiest way is to install Marcel Bresink's TinkerTool

utility (\$9; macworld.com/0449). In the Finder section, remove the check marks from all the boxes in the Animation Effects part of the page, and then click on the Relaunch Finder button (see "Deanimate the Animation"). And here's another tip: in the Dock section of TinkerTool, you can enable the Suck In effect, a third animation style for minimizing windows. This is probably the fastest of the three (the other two are Scale and Genie), but it's available only in TinkerTool (or via Terminal).

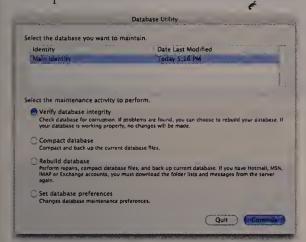
Skip Disk Image Verification When you mount a disk image, OS X first verifies the disk's checksum to make sure that nobody has tampered with the

data on the disk image. Theoretically, that step is important. But when you're dealing with disk images from trusted sources (which is most of the time, I hope), it's redundant. (In five years of OS X usage, I have yet to have a checksum test fail.) Thankfully, you can easily disable this feature. If

first quit all Office 2004 apps. Then hold down the option key while launching Entourage to summon the Database Utility. Select the Verify Database Integrity option and click on Continue. If the utility reports errors, select Rebuild Database and click on Continue again (see "Database Rehab"). If you have IMAP or Exchange accounts, you'll have to redownload messages stored on those servers.

Take Entourage out of the Spotlight

Some users have found that if Spotlight attempts to index items in the Microsoft



Database Rehab To fix a corrupted Entourage database, hold down the option key while Entourage is loading to launch the Database Utility.

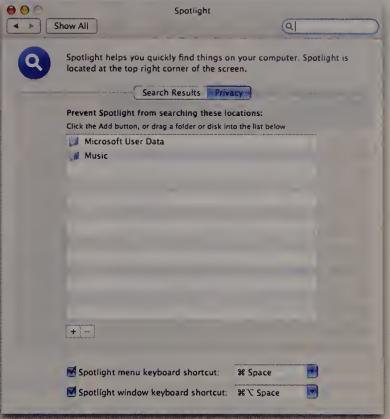
User Data folder, it can adversely affect Entourage performance. To avoid this problem, open the Spotlight preference pane and click on the Privacy tab. Then drag the following folder into the resulting window: /your user folder/Documents/Microsoft User Data (see "A Little Privacy").

iTunes

Dumber Playlists

People who have lots of smart playlists often find that smart playlists can increase the amount of time iTunes takes to open or to display playlist content. Here's something to consider: some smart playlists (such as those whose crite-

ria include Last Played or Date Added) change more than others (such as those based on artists you no longer actively collect). So you can speed up iTunes in the following two ways.

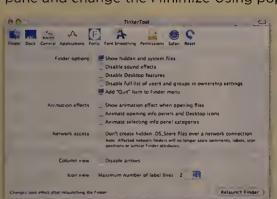


A Little Privacy While Spotlight can't search Entourage (yet), it keeps trying—which can slow down your e-mail. To keep Safari from doing this, add Entourage to the do-not-search list.

First, if a smart playlist doesn't change that much, select it, choose File: Edit Smart Playlist, and deselect the Live Updating option. Second, you can create a new, regular playlist, drag everything

you downloaded TinkerTool earlier, just look in the Applications section and choose the Skip Checksum Verification When Opening DMG Files option. If you don't have TinkerTool, open Terminal and type defaults write com.apple .frameworks.diskimages skip-verify true. From now on, you won't see the checksum-verification progress box. To reenable it, repeat the above command but change true to false.

Change the Dock Animation Open the Dock preference pane and change the Minimize Using pop-up menu to Scale



Deanimate the Animation Although the Finder's various visual animations can be nice eye candy, they can also be real resource hogs. TinkerTool makes it easy to turn them off.

Effect. (If you have TinkerTool, you can use that utility's Suck In effect, which is faster than Scale.) On many machines, especially those with slower video cards, you'll notice that windows minimize to the Dock much more smoothly when this effect is enabled. While you're in this preference pane,

deselect the Animate Opening **Applications** option; when this option is turned off, you'll no longer have to waste time watching an application's icon bounce around before the app opens.

Speed Up Your Keyboard Switch over to the Keyboard & Mouse preference pane and open the Keyboard

Use the F1-F12 keys to control softwa: When this option is selected, press the Fn key F1-F12 keys to control hardware features. Turn off when computer is not used for

Improve Your Typing Speed When you increase the key repeat rate and decrease the delay before repeat, you can make your keyboard feel faster.

tab. Then set the Key Repeat Rate setting to Fast and move the Delay Until Repeat slider closer to the Short end of the bar (see "Improve Your Typing Speed"). Both of these changes will make your machine feel more responsive. For instance, text will disappear at a much quicker rate when you hold down the delete key. You can do a bit of experimenting to find the settings that work best with your typing style.—ROB GRIFFITHS

from one of your static smart playlists to it, and then delete the smart one (see "Don't Be Smart").

iPhoto 5

Use Default Thumbnail Sizes

iPhoto automatically creates thumbnails of each of your images in several standard sizes. If you use the size slider at the bottom of the window to choose a nonstandard size, iPhoto has to rescale all the images on-the-fly-which can slow the program down slightly when you're opening a photo library or scrolling. To choose one of the preset sizes in browse mode, press 0 for small thumbnails, 2 for medium, or 1 for large (and yes, you read those numbers correctly, even though they seem to be out of order).



Check Your Plug-Ins

If you have any third-party iTunes plug-ins installed, make sure you have up-to-date versions. If iTunes is particularly unresponsive, you might also try disabling plug-ins temporarily. To do so, first quit iTunes. Then look in /your user folder/Library/iTunes/iTunes Plug-Ins or /Library/iTunes/iTunes Plug-Ins, and drag any files inside those folders to the desktop. Relaunch iTunes; if the problem goes away, you'll know that one or more plugins were at fault. You can then add them back one at a time to discover the culprit.



Don't Be Smart Smart playlists can actually slow iTunes down—so don't use them when you don't have to, and turn off live updating whenever you can.

Turn Off Shadows

By default, iPhoto adds a drop shadow to each photo in browse mode. On Macs with slower processors or graphics cards, the extra processing required to display those shadows can slow things down. To turn off the shadows, choose iPhoto: Preferences, click on the Appearance button in the toolbar, and deselect the Drop Shadow option (see "Out of the Shadows").

Collapse the Rolls

If you view your photos by roll (View: Sort Photos: By Film Roll), you can help iPhoto open more quickly by collapsing each roll so that only the title and date show. To do so, click on the disclosure triangle next to a roll title to collapse or expand just that one roll; then option-click on the triangle to collapse or expand all

See "Optimizing Photoshop CS2"

(page 74) for tips on speeding up Adobe's image-editing app.

Faster Photoshop

your film rolls at once. If you leave them that way when you quit iPhoto, it will open and scroll more quickly next time.

Split Your Library

If you have thousands of photos, consider splitting your collection into multiple, smaller libraries. With fewer photos open at a time, iPhoto will be much peppier. To split your library and switch between libraries, use a tool such as Rick Neil's iPhoto Buddy (free; macworld.com/ 1080) or Brian Webster's iPhoto Library

> Manager (\$20; macworld .com/0033).

Out of the Shadows While iPhoto's drop-shadow borders look cool when you're browsing albums, they can also slow down the app.

Empty Your Trash

iPhoto uses its own internal Trash to hold deleted photos. You can free up disk space and give iPhoto fewer things to keep track of by emptying its Trash periodically. To do so, choose iPhoto: Empty Trash.

JOE KISSELL has written numerous e-books about Mac OS X software (www.takecontrolbooks.com).

Upgrading RAM: FAQs

When it comes to upgrading your Mac, RAM is the easy choice. It's inexpensive, it's relatively easy to install, and it can make a noticeable difference. But as a quick visit to just about any Mac forum will tell you, RAM upgrades can also be horrifically frustrating. Here's how to do it right. By Kyle Wiens

Why would I need more RAM?

The first step in upgrading your RAM is to decide whether you need to do so at all. Upgrading RAM doesn't necessarily help apps run faster (see "Bang for Your RAM Buck"). But it can speed up the processes of opening or switching between appssomething some of us do several times a minute. If those processes feel faster, so will your overall computing experience.

The reason for this is that OS X swaps apps and documents in and out of memory all the time. When the programs you're running require more RAM than you've got, OS X moves programs that aren't doing anything at the moment from active memory to temporary swap files on your hard drive, to make RAM available for the apps you're really using.

Let's say you have Photoshop and Mail running at the same time. Photoshop already has some memory allocated to it. If you open a large photo in Photoshop that won't fit in your available RAM, Photoshop will request more memory from OS X. Looking for memory from somewhere, the OS will recognize that you haven't used Mail in a while and will copy (or "page out") Mail's memory con-



The Colors of RAM Activity Monitor is a great way to keep track of what applications are using your RAM (and whether it's overtaxed). But what exactly does that pie-chart (A) mean?

Wired (red) Contents that must remain in physical RAM and can't be paged out to disk.

Active (yellow) Processes using memory right now.

Free (green) Memory available for allocation.

Inactive (blue) Memory allocated to an open program but not in use at the moment.

tents to your hard drive. That RAM is now free, and OS X can allocate it to Photoshop and load your photo.

Paging out is slick, but there's a catch copying memory to disk is slow. A fast hard drive can write about 20MB per second. DDR2 RAM has throughput of up to 4GB per second. So as soon as you start using virtual memory instead of RAM, memory access times slow way down.

Let's say you decide to check your e-mail. OS X previously paged Mail out to

disk, and you've been using Photoshop. When you click on Mail in the Dock, the OS has to load it back into physical RAM and load that photo into virtual memory on your drive. This process could take a second or two, resulting in that dreadful spinning beach ball.

How do I know if I need more RAM?

The simplest way to find out whether you're overloading your RAM is with

Macworld Bang for Your RAM Buck

To find out what impact additional RAM has on performance, we tested two Macs: a 1.42GHz Mac mini with 256MB of RAM, and a 1.8GHz Power Mac G5 with 512MB. We then upgraded them both (the mini to 512MB and then 1GB, the Power Mac to 1GB) and retested. To simulate real-world conditions, we tested with several apps open: iTunes playing songs from its library, Firefox displaying Apple's home page, Entourage with a wellpopulated inbox, Photoshop with a 50MB file open, and iMovie running a tutorial. We then ran both the Photoshop and Firefox portions of our Speedmark test suite.

We did find a dramatic performance boost when we upgraded the Mac mini's stock 256MB of RAM to 512MB. But while doubling the RAM from 512MB to 1GB also goosed performance in both tests on both systems, the improvement was not as dramatic. The Photoshop test ran about 12 percent faster

after going from 512MB to 1GB on both Macs. In Firefox, the Power Mac completed the test 27 percent faster after its upgrade; the Mac mini, 30 percent faster.—JAMES GALBRAITH



All scores are in minutes:seconds. For each test the following five applications were open and running: iTunes, iMovie, Mozilla Firefox, Adobe Photoshop, and Microsoft Entourage. The Photoshop test is a set of 14 scripted tasks using a 50MB file. We set Photoshop's memory to 70 percent and History to Minimum. The Firefox test downloads multiple tabbed Web pages from a local server with disk cache set to zero.—MACWORLD LAB TESTING BY JAMES GALBRAITH AND JERRY JUNG

OS X's Activity Monitor. Open it up and click on the System Memory tab (see "The Colors of RAM"). If the pie chart is mostly green and blue (representing free and inactive memory, respectively), then you're in good shape. If the chart is mostly yellow and red (active and wired), then you're running out of RAM and may experience slowdowns.

Watch the Page Ins/Outs numbers. If page outs are increasing continually, you need more RAM.

How much RAM do I need?

As you can probably guess, the amount of memory you need depends heavily on which apps you use daily. Most Tiger users should have at least 512MB; given the number of Macs that Apple has shipped over the years with just 256MB standard, that could be a lot of users. But for some professional applications, even 2GB may not be enough.

To find out how much memory you need, keep an eye on Activity Monitor for a day or so. If the free RAM reported by Activity Monitor is less than 10 percent of your physical RAM under a typical workload of apps and documents, you need to increase your RAM until those numbers are more in line. For example, if you have 1GB of RAM installed, and Activity Monitor consistently reports that you have less than 100MB of RAM free, you're a good candidate for an upgrade.

Then there's the question of how much RAM your system can take. That, in turn,

depends on how much RAM you have installed now, what configuration it's installed in, and how many slots you have available. Let's say, for example, that you have one of the original first-generation iMac G5s, which shipped with 256MB of RAM. They also came with two RAM slots, to which you can add up to 1GB of

RAM each. Assuming you don't want to toss that original 256MB, that means you can upgrade to 1.25GB.

For more details, download Mac-Tracker (www.mactracker.ca); this useful utility provides detailed tech specs for every Mac model ever produced (see "Track Down Your Mac").

What kind of RAM do I need?

So you've decided that you need more RAM. The next step is figuring out what *kind* of RAM your system takes.

The simplest way to find out is to open up System Profiler. In OS X 10.3 and later, open the Apple menu, select About

Is Your Memory Bad?

congratulations. You just installed a new memory module in your Mac. Your computer's RAM is now double what it was yesterday and it's running faster than ever. The only problem is that it also crashes periodically and documents get mysteriously corrupted. You suspect a defective module is the culprit. But how can you be certain?

For starters, confirm that the memory you installed is (a) alive and kicking and (b) the right type of RAM for your Mac. Happily, checking both of these things is a snap.

Is It Alive? First, select About This Mac from the Apple menu and see how much memory it reports. If it's not the amount you expect, your new RAM module is dead or you didn't install it properly. To find out which is the case, go through the installation again, making certain that the module clicked into its slot properly. If it did and the memory still doesn't register, you probably have a defective module.

If the amount of RAM seems correct, open System Profiler (select About This Mac from the Apple menu and then click on the More Info button). In the Contents pane, select Hardware: Memory. In the right pane, you should see a

list of all your installed memory.

Check the Size,
Type, and Speed
columns. Make sure
these specs match
those of the RAM
you intended to
buy. To confirm
that this type of
RAM will work with
your system, check
your Mac's documentation or use
MacTracker.

Ah, but what if

your Mac won't start? In that case, pay attention to the startup sounds when you turn on the Mac. Unusual beeps instead of the normal startup tone likely mean defective memory. For details, borrow someone else's Mac and check out Apple's Knowledge Base article at macworld.com/1081.

On Again, Off Again If all the specs check out, you may have the dreaded intermittent-memory problem—your memory module is weak but not dead. It works fine most of the time but has occasional hiccups. A hiccup at a particularly bad moment can result in

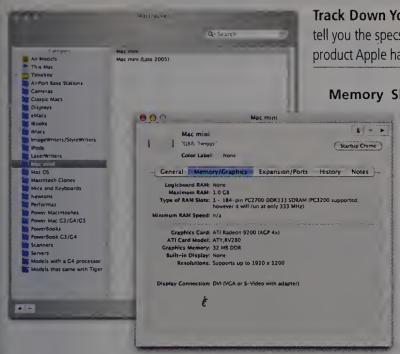


Emergency Test If you can't even boot into OS X, try running Tony Scaminaci's Memtest from the special single-user startup mode.

anything from a corrupted document to a system crash.

What makes these problems so infuriating is that they're so hard to diagnose. You have to wait for the next hiccup, which could be minutes or days away. Still, even with intermittent-memory problems, you aren't helpless. Here are the things you can do:

Remove the memory you just installed (and reinstall any modules you took out to make way for the new memory). Wait a few days. If the symptoms disappear, a memory problem was the likely cause.



Track Down Your Mac The MacTracker utility can tell you the specs of any Mac (or any other hardware product Apple has ever made, for that matter).

Memory Slot This specifies the form

factor of the RAM your system uses. Most desktop Macs use DIMMs (Dual In-line Memory Modules), while Mac laptops and some early iMacs take SODIMMs (Small Outline DIMMs).

Size This is, logically enough, the capacity of the RAM you have installed now. Consult MacTracker's Memory/Graphics tab to

find out how much RAM your Mac is able to accept.

Type Until recently, Macs used DDR (double data rate) RAM. The latest Power Macs and iMacs use DDR2 memory.

This Mac, and click on the More Info button. (In OS X 10.0 through 10.2, go to Applications/Utilities and launch System Profiler.) Under Hardware, select Memory. That should give you all the information you need.

> Get out the disc(s) that came with your Mac and look for Apple Hardware Test. With recent Macs, it's on the Install and Restore DVD. With older Macs, it's on a separate Hardware Test CD. To access Apple Hardware Test from the DVD, insert the DVD and restart your Mac while holding down the option key. A screen will appear, listing all bootable volumes. One of them should be named Apple Hardware Test. Select it and click on the right-arrow button to launch the utility. You will have a choice of a Quick Test or an Extended Test. Choose Extended Test.

One advantage of Hardware Test is that you can use it even if you can't launch OS X. But if your intermittent problem is intermittent enough, Hardware Test may not test long enough to detect it.

> For the final word, get Kelley-Computing's Rember (macworld.com/ 1082). This utility can test your memory for any length of time. Enable its Infinite option, and it will test forever (or until you click on Stop). This allows you to run a test that lasts for days. After stopping, check the log output to see if it found any errors.

Nonstarting Macs The only problem with Rember is that you can't use it if

you can't start up in OS X. One solution is Tony Scaminaci's Memtest (www .memtestosx.org), a Unix command typically run from Terminal. (Rember is actually just a graphical front end for Memtest.) The advantage of Memtest is that you can run it from single-user mode, a special startup mode (accessed by holding down X-S at startup) that may work even if your Mac can't successfully start OS X.

Single-user mode offers another advantage: it allows you to test more of your memory. That's because Memtest is unable to assess memory that's currently in use by other software. After a normal startup (and a launch of Terminal), the memory accessed by the Finder and Terminal would be off-limits to Memtest.

To run Memtest in single-user mode (assuming it's already installed), type /Applications/memtest/memtest all 3 -1 (check the user guide that comes with the software for more details). You can stop the test at any time by pressing control-C.

If any of the above paths indicates a defective memory module, contact the company where you purchased it and ask for a replacement.—TED LANDAU

Speed The number that comes after the letters PC refers to the RAM's bus speed. It's a common misconception that faster RAM will make your computer faster. It won't. Some faster RAM chips will work in computers that shipped with slower memory (for example, PC2700 chips will work in PC2100 Power Mac G4s). But while you can often add faster memory to systems that use a slower type, doing so won't provide any speed improvements. The computer will run the PC2700 memory at the same speed as the PC2100.

Where should I buy RAM?

Bargain-basement PC retailers may offer RAM that will work in your Mac-but I wouldn't advise buying from those sources. Macs tend to be pickier about good RAM than PCs, and OS X is particularly picky. (OS 9 tolerated some hardware defects that OS X's memorymanagement system will reject.) Bad RAM can lead to kernel panics and random application crashes.

It's best to buy RAM from Mac-specific companies. Even within the Mac community, it's important that you buy RAM with a lifetime warranty. (Disclosure: my company sells RAM.)

How do I install it?

I can't give directions for installing RAM on every Mac out there. Fortunately, you can find that information online. Apple has instructions for installing RAM on many of its desktops; search for RAM and your Mac type at apple.com/support. My company offers online instructions for replacing RAM in your laptop or your Mac mini at ifixit.com/Guide.

KYLE WIENS has two 512MB PC2700 DDR SODIMMS in his PowerBook and wants more. He is also the CEO of iFixIt.com, a PowerBook and iBook parts retailer.





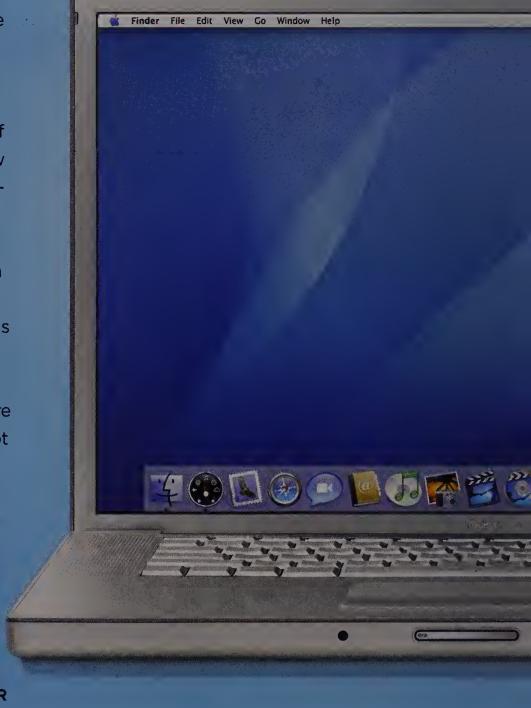
Everything You Need to Know about the Intel Transition, the MacBook Pro, and the New iMac

BY JONATHAN SEFF AND JASON SNELL

In June 2005, Steve Jobs announced that the Mac would be leaving the PowerPC chip behind in favor of a new generation of processors made by Intel. For longtime Mac users, that announcement was a psychological shock—half of the former Wintel "evil empire" was now playing on our team. And for Mac developers, the announcement was like the shot from a starting gun: it began the race to make programs compatible with Intel processors.

Back then, there were lots of questions about the Intel transition—and precious few answers. Fortunately, now that it's 2006, the details of the move to Intel are beginning to come into focus. We've got our first two Intel Mac systems, the first official Intel-native release of Mac OS X, and even a new Intel chip technology—Core Duo—powering things behind the scenes. As a result, we know much more about the Intel transition—and so should you. Here's the current state of the Intel-Mac marriage.

PHOTOGRAPHY BY PETER BELANGER





Intel FAQs



So there's an Intel chip in a Mac. Why should I care? If you're a casual Mac user, you shouldn't care. When you sit down at an Intel-based Mac, it'll feel exactly like a PowerPC Mac. However, the transition to Intel chips will affect many Mac users, especially those who rely on software that hasn't yet been updated for Intel-based Macs. And the Intel transition will have a long-term impact on the Mac world, affecting the design and speed of new Macs for years to come.

We used to have G3s, then G4s, and then G5s. So what's inside these new systems—a G6?

G5 is the last G we'll see. The chip powering the new iMac and MacBook Pro systems is Intel's brand-new Core Duo processor. It's both powerful and energy-efficient, and it was designed by Intel for use in laptops—although it's clearly also appropriate for use in ultrathin desktops such as the iMac.

Like the G5 chips in the last round of Power Macs, the Core Duo is a dual-core chip. This means that there are essentially two processor brains on the Core Duo chip, providing the speed of two processors, as well as lots of energy efficiency. It also has 2MB of level 2 (L2) cache, which is speedy RAM attached directly to both processor cores—that's the same amount of L2 cache as the processors in the dual-core

Power Macs have, and four times as much as the processors in the previous iMacs. (And since one cache is shared by both processor cores, it's even more efficient: its resources can be dynamically allocated to whichever core needs them.)

The result of all this is that although the Core Duo chips in the iMac and the MacBook Pro are similar in clock speed to their G4 and G5 counterparts, the systems should be much faster.

But what about the "megahertz myth"? I thought that when we went to intel, we were going to get blazing-fast chips!

A funny thing happened on the way to 3GHz, and it happened to both IBM and Intel. Intel, which had succeeded at driving chip clock speeds higher and higher and convincing customers that clock speed equated to actual processor performance, hit a clock-speed wall. To hear Apple engineers tell it, Intel realized that it needed to go through a seriously painful transition period and revamp its processor road map to emphasize more-efficient chips that could do more at lower clock speeds.

That was a decision that fed directly into Apple's decision to make the move to Intel. With the latest generation of Intel chips, such as the Core Duo, Apple finally has a set of chips that provide the thermal- and power-management strengths of the G4 processor (vital for

laptops and cozy iMac cases), but with speeds more in line with the power-hungry, super-hot G5 processor.

So there's a Core Duo. Is there also a Core Solo?

You've been peeking. Indeed, there is— Intel's got a lower-power, lower-heat sibling to the Core Duo called the Core Solo. When we asked Apple about its choice of the Core Duo for the iMac

of the Core Duo for the iMac and the MacBook Pro, company representatives said that "using dual-core processors for these products was exactly the right thing to do."

Of course, what we took this statement to mean is that you might see a Core Solo processor in some other Macs in the future—ones that don't need the power of a dual-core chip. For example, future Mac minis, iBooks, or even ultralight notebooks might be candidates for such a chip. But that's sheer speculation on our part.

How much work did Apple need to do to make OS X run on Intelbased machines?

Steve Jobs might have had a smile on his face when he told the story last June, but he wasn't kidding: ever since the beginning of Mac OS X, there has been a group at Apple dedicated to compiling and running OS X on Intel processors. OS X originated as NextStep/OpenStep, an operating system that originated on Motorola-based chips and later also ran on Intel chips, so Apple had a bit of a head start.

From the very beginning, Apple wanted to keep its options open. So when it came time to make the transition, the company didn't need to launch a grand project to make the transition. It just needed to bring this secret project out into the light.

With the release of these new systems, there are two versions of Mac OS X



Like the G5 chips in the last round of Power Macs, the Core Duo is what's called a dual-core chip.

10.4.4: one compiled for Intel chips and another compiled for PowerPC chips.

How is this different from the OS 9 transition?

It's pretty different. For most developers, modifying their software to run on Intel processors will be quite a bit easier than making that software run natively in OS X. From a user perspective, an Intelbased Mac system will look just like a PowerPC-based system. Mac OS X is remaining the same; it's just the underlying processor that will be different.

Does this affect the software I already own? What will happen to my software if I buy an Intelbased system?

The Intel version of OS X features a technology called Rosetta, which Apple describes as a dynamic code translator. Basically, Rosetta takes program code created to run on a PowerPC processor and translates it into its Intel equivalent.

line that will list Intel, PowerPC, or Universal in parentheses.

Will I have to buy new versions of my software specifically to run on an Intel-based Mac?

As with the PowerPC and OS X transitions, there's no single answer. Different developers will handle things in different ways. One company might offer an Intel-compatible version as a free upgrade; another might build it into the next major release and charge you for the privilege.

In the past few months, many developers have released minor updates that transformed their products into Universal programs; both Bare Bones Software's BBEdit and TLA Systems' Drag Thing are in this category. Apple itself has said that Final Cut Studio, Logic Pro, and Aperture will all be available in Universal form in March for a \$49 "cross-grade" fee (you send in your installation discs and Apple exchanges them for Universal discs). It's

one—you'll install the program and double-click on it, and your computer will use the code that's right for its processor.

Can these Intel-based Macs run Windows?

Basically, Apple's official policy is that if someone wants to figure out how to run Windows on a Mac, Apple doesn't want to know about it.

One interesting quirk of these new Intel-based Macs is that, unlike the developer test systems released last summer, they use Intel's Extensible Firmware Interface (EFI) instead of the tried-and-true BIOS that classic PCs use. Windows XP doesn't actually support EFI, although the forthcoming Windows Vista will.

So the question is, how will people get Windows to run on the Mac? We're sure someone much smarter than we are will figure it out. Whether you'll be able to reboot into Windows or run it in some sort of compatibility box—hello, Virtual PC—remains to be seen.

The Intel version of Mac OS X features a technology called Rosetta, which translates PowerPC code to run on Intel chips.

But Apple is trying very hard not to use the word *emulation* here, largely because most people think of programs such as Virtual PC when they hear that word. Rosetta isn't anything like Virtual PC or even Classic—in fact, from a user's perspective, there's no way to tell whether you're using a program running in Rosetta or using a *Universal* program—Apple's term for a program that runs natively on both Power-PC and Intel processors. (Speaking of Classic, those of you who still use it will be disappointed to hear that the Intel Macs do not support Classic.)

Last June, there was a lot of speculation that Rosetta would refuse to run certain kinds of programs. But according to Apple, Rosetta will try to run anything you throw at it. However, programs that are extremely processor-intensive will probably not run at acceptable speeds.

How can I tell whether a program I've got is Universal?

The only real way you'll be able to tell what processors a program is compiled for will be to select a program in the Finder and choose Get Info. You'll see a Kind possible that programs from large developers—Microsoft Office and Adobe Photoshop, for example—won't be Universal until the next full (that is, pay) versions of those products are released.

Because of Apple's new "Universal Binary" approach, developers can deliver a single program that contains both Intel and PowerPC versions of the software. You won't have Intel applications and PowerPC apps floating

around—which means there's no danger of clicking on the wrong one, and which makes it possible to drag and drop software from an Intel Mac to a PowerPC



www.macworld.com March 2006 MACWORLD 63

iMac FAQs

If all the software out there won't run natively on the new iMac, why should I buy one instead of the old model?

It may depend on how adventurous you are. The new Intel iMacs cost the same as the PowerPC iMacs but offer two processor cores instead of one, faster RAM, and improved video features. At the same time, however, if the programs you use most often aren't yet Universal, they'll run slower because Apple's Rosetta technology will have to translate their PowerPC code into instructions the Intel chips can understand.

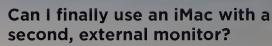
Apple just updated the iMac a few months ago! What gives?

When the new iMac G5 was announced last year, Apple pointed out that despite its outer similarities to the previousgeneration iMac, its innards were quite

different. Turns out that those engineering changes—speeding up the bus and RAM, adding PCI Express graphics support, and the like—were laying the groundwork for the switch to Intel. As a result, these new Intel-based iMacs aren't that different from their G5 predecessors. There are only a few areas where there are notable changes: processor, RAM, and display.

So what's new with the iMac's processor?

The new iMac uses the Intel Core Duo processor—as a result, Apple reports that these new iMacs are two to three times as fast as their predecessors, even though the chips in these new iMacs have lower clock speeds (1.83GHz and 2GHz) than their G5 counterparts (1.9GHz and 2.1GHz).



Rather than the VGA port of previous models, the new iMacs sport mini-DVI ports. You can finally get crystal-clear digital-video output from an iMac. Even better, the iMac is no longer limited to displaying a duplicate of what's on its main screen on an external display. You can run a projector, a TV, or even a flashy 20-inch or 23-inch Apple Cinema Display as a second screen, in addition to the iMac's built-in display.

What else is new when it comes to iMac video?

The video card has been somewhat upgraded, from an ATI Radeon X600 to an ATI Radeon X1600. More importantly, buyers of the 20-inch iMac can opt to trick out the card with extra RAM, taking it from 128MB to 256MB—good news for gamers and anyone else who wants speedy graphics performance on an iMac.

That's it? That's all that's new with this iMac?

With the (major) exception of the Intel Core Duo processor powering it, this new iMac is very much like its predecessor. The big changes to the iMac line came a few months ago, when the new iMac G5 was released, complete with its built-in iSight camera, remote, and software. But the Core Duo's extra processor core gives these iMacs speed potential the iMac G5 lacked, and the upgraded video features patch one of the iMac's few remaining weaknesses. Given that these new iMacs are the same price as the previous versions, they appear to be an awesome value.



Macworld Intel Put to the Test

Macworld Lab's first tests show that the new Intelbased iMac is faster than the iMac G5 when running native applications, but our tests didn't show the sort of speed improvements reported in Apple's published test results.

We found the new 2GHz Core Duo iMac to be roughly 1.1 to 1.3 times as fast as the 2.1GHz iMac G5 at most native application tasks, albeit with some notable exceptions. We also found that applications that aren't yet Intel-native (and that must run using Apple's Rosetta code-translation technology), tend to run half as fast as the same applications running natively on an iMac G5. (For more results and in-depth analysis, go to macworld.com/1099.)

UNIVERSAL	iMac Core Duo/2GHz	iMac G5/2.1GHz	
Startup	0:25	0:46	
iMovie 6: Compression	6:39	6:00	
iPhoto 6: Import Files	0:53	1:22	
iPhoto 6: Export to Web	2:01	2:12	
iPhoto 6: Export to Files	2:55	2:40	
Finder: Create Zip Archive	2:32	2:53	
iTunes 6.0.2: MP3 Encode	1:14	1:23	
iDVD 6: Save as Disk Image	13:55	15:33	
BBEDIT: Run Text Factory	1:37	2:02	
ROSETTA			
iTunes 6.0.1: MP3 Encode	3:41	1:16	
Adobe Photoshop CS2: Suite	2:50	1:16	
Microsoft Word: Scroll	1:58	0:57	
REST RESULTS IN ROLD	The second of th	r er er	

All scores are in minutes:seconds. All systems were running Mac OS X 10.4.4 with 512MB of RAM. The G5's processor performance was set to Highest in the Energy Saver preference pane. Using iMovie, we compressed a 6:46 movie for iPod transfer, using default settings. We imported 100 JPEG photos into iPhoto and then exported them as a Web page and as files (resized to a maximum size of 2,000 by 1,500 pixels). We created a Zip archive in the Finder from a 1GB folder. We converted 45 minutes of AAC audio files to MP3 using iTunes' High Quality setting. We saved an iDVD project containing a 6:46 movie as a disk image. We used BBEdit to run a Text Factory containing five editing, replacement, and sorting tasks on a 75.1MB text file. We scrolled through a 500-page document using Microsoft Word. Our Photoshop Suite test is a set of 14 scripted tasks using a 50MB file. Photoshop's memory was set to 70 percent and History was set to Minimum.—MACWORLD LAB TESTING BY JAMES GALBRAITH AND JERRY JUNG

Macworld DIGITAL PHOTOGRAPHY SUPERGUIDE

ON SALE NOW!

Macworld DIGITAL PHOTOGRAPHY SUPERGUIDE



\$12.95

Exclusive Macworld e-book AVAILABLE ONLINE ONLY

Get these essential tips

- Digital Camera Buying Advice
- Capturing Great Shots
- Photo Editing
- Perfect Printing
- Photo Library Organization
- Back-up Solutions

With more than 100 pages of expert advice, Macworld's e-book will guide you through every step of the photography process.

ORDER NOW!

ONLINE

www.macworld.com/0976

FOR ONLY

\$12.95

(use the URL above for the special \$9.95 Macworld reader discount!)

coworld e-books are provided in standard PDF format, ready to be read via your PDF reader of choice, including Apple's Preview and Adobe Acrobat.

ted version also available.

MacBook Pro FAQs



First, why isn't it a Power-Book—because the Power in PowerBook indicated a PowerPC chip?

Actually, the PowerBook precedes the release of PowerPC Macs by several years. But Apple apparently wants the word *Mac* to appear in the name of every computer it sells, and during the rollout of the MacBook Pro Steve Jobs indicated that Apple is simply tired of the word

Power, regardless of its origins. We're going to miss the PowerBook name a lot, and "MacBook Pro" is a mouthful—but we'll all get used to it eventually.

MacBook I get. Why "Pro"?

Clearly there's another shoe waiting to drop. What the regular "Mac-Book" will be is anyone's guess. The replacement for the iBook? A new subnotebook? Something else? We'll all have to wait and see.

So is the PowerBook dead?

Not yet—at least not officially. With the first Intel laptop coming in only one display size (15.4 inches), Apple is still selling all the members of the PowerBook line in the "Portables with PowerPC Processors" section of the Apple Store. Apple says that the 15-inch PowerBooks will be available only while supplies last, but the company won't make a similar statement about the

Point and Click The MacBook Pro's sensor lets you control media from across a room.

12- and 17-inch models. This is a good sign that Apple is far from finished when it comes to releasing Intel-based laptops in 2006.

What's new in the MacBook Pro?

What isn't? Almost every element in this laptop has been updated and improved, compared with the PowerBook G4.

The new processor, the Intel Core Duo, makes this the first dual-processor laptop Apple has ever made. The MacBook Pro's system bus runs at 667MHz, four times the speed of the PowerBook's 167MHz bus. The new PCI Express—based graphics technology offers 8 GBps of total bandwidth, which is eight times that of

But I heard that some of the MacBook Pro's features are actually inferior to the Power-Book's. Is that true?

Yes. The MacBook Pro's optical drive is slower than the PowerBook's (4× instead of 8×), and it won't burn dual-layer DVD discs. Apple says that to get the MacBook Pro down to one inch thick, it had to use a new ultra-slimline optical drive. Currently the 4× DVD burner with no dual-layer capacity is the best drive in that class. (But fear not: the drive will still burn single-layer DVDs and CDs, and it plays back all your DVDs—even dual-layer commercial ones—and CDs just fine.)

The PowerBook's built-in S-Video port is also gone, although you can buy a \$19 adapter to convert the output of the

The new processor—the Intel Core Duomakes the MacBook Pro the first dual-processor laptop Apple has ever made.

the PowerBook's 4× AGP graphics system. The drives are now using fast Serial ATA technology. The RAM is dramatically faster.

And this laptop includes the remote control and the Front Row software released with the last iMac G5.

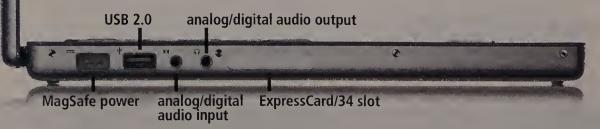
As a result, Apple claims that these new laptops will be four times as fast as the old PowerBooks.

PowerBook's DVI port to either S-Video or composite.

Oh yeah, and the MacBook Pro doesn't have a modem.

Are you serious? Apple's selling a portable computer that doesn't have a modem in it?

It's true. Clearly, someone at Apple wants the modem to die, and soon. Like the elimination of the floppy drive with the release of the original iMac, this strikes us as a move that's just a little ahead of its time. True, these days most laptop users rely on broadband connections, either via Ethernet or wireless. True, the Internet is



rapidly becoming an experience that requires high-speed connectivity. But still, there's always going to be that time when you're stuck in the middle of nowhere and you need to check your e-mail. And now, if you've got a MacBook Pro, you're going to need to make sure that you pack a \$49 Apple USB Modem in your bag just in case of emergencies. Road warriors, you may commence your groaning now.

At least I don't have to lug around an iSight camera—right?

Yes, because the MacBook Pro is the first portable (and only the third Mac, after the iMacs) to include a built-in iSight camera. And thanks to dual-core processing, you can use the MacBook Pro to initiate multiperson iChats (if you have the bandwidth) and can get the full 640-by-480-pixel resolution that the camera offers.

What is the ExpressCard/34 slot Apple has been talking about? Can I use my existing PC cards with it?

ExpressCard is a faster, serial replacement for the parallel PC Card standard



In the Box The MacBook Pro is the first portable to have a built-in iSight camera.

used on many laptops. It offers up to 250 MBps of throughput in each direction. The 34 refers to the width (34mm), much slimmer than the 54mm of a PC Card module. Current PC Card peripherals won't fit in the new slot and aren't compatible. The ExpressCard slot does have a lot of potential on its own—it's got access to the full speed of the USB or PCI Express buses, meaning that cards attached via the slot will be able to move data at tremendous speeds—but currently there aren't many devices for sale that use the slot.

Apple removed the FireWire 800 port from the new laptop—what gives?

Quite frankly, Fire-Wire 800 hasn't really taken the world by storm. And Apple says that forthcoming cards for the MacBook Pro's ExpressCard slot will be able to provide Fire-Wire 800 ports for people who need them. (In addition, Express-Cards should be able to provide high-speed

connections for other standards, such as external Serial ATA.)

Is the MacBook's display any different from the PowerBook's?

Yes, and there's both good and bad news in this area. The MacBook's display is slightly shorter than the Power-Book's—60 fewer vertical pixels than the 15-inch PowerBook's. But it's also much brighter, going from 180 nits (a

standard measurement of brightness—a nit is equal to one candela per square meter) to 300 nits. The result is that the screen has the same brightness as an Apple Cinema Display.

Will having a dualcore processor mean shorter battery life?

Apple hasn't given an official battery-life rating

to the new MacBook Pro, but the company has told us that it expects battery life to be similar to the battery life of the current PowerBook line (which ranges from 4.5 to 5 hours). Apple says that the MacBook Pro's new, thin lithium-polymer battery is state-of-the-art, and that the power consumption of the



Snap to It The new MagSafe power connector locks into place magnetically but can unplug easily if snagged.

Core Duo chip in the MacBook Pro is roughly comparable to the power consumption of a G4 chip, or slightly higher. That superbright screen, however, may negatively effect the laptop's battery life.

What is the MagSafe power connector?

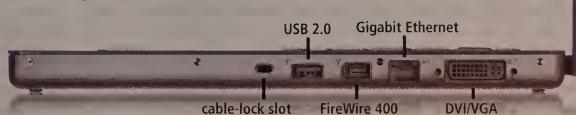
Apple has redesigned the way the power charger connects to the laptop.

(Yes, laptop users who have collected a zillion power adapters, this means you'll have to invest in allnew adapters.) The MagSafe connector uses magnets in the cable and in the computer to secure the connection, creating a snugger link between the two parts. Apple did this to prevent accidental cord snags that can damage the laptop.

The MagSafe connecter is made up of a magnetic ring surrounding four small power nubs; when you move it close to the MacBook, the magnetic attraction takes over and it snaps in place. There's no up or down on this connector—it's perfectly symmetrical, so either direction works fine. A small light (on both the top and the bottom of the connector) indicates your MacBook's charging status.

JONATHAN SEFF is *Macworld's* senior news editor.

JASON SNELL is *Macworld's* editorial director.



www.macworld.com March 2006 MACWORLD 67

WORKING MAC

Merge Data and Save Time

Whether you send letters and promotional pieces to clients or make name tags for office functions, getting names, addresses, and other unique information into boilerplate documents can be a serious pain. Microsoft Word's data-merging tools automate the process and let you do more-advanced tricks—for example, calculating discounts or including a special postscript only on letters to A-list clients.

Bring Everything Together

The key to merging data in Microsoft Word 2004 (\$239; www.microsoft.com/mac) is the Data Merge Manager palette (Tools: Data Merge Manager). You'll find the tools you need here.

Create the Document The main document, which might be a letter, a flyer, or a label (for name tags), includes any stock text or images. Drag and drop special field codes onto the page to indicate where the custom data should appear (see "The Urge to Merge").

Choose Your Merge Type Choose from three merge-type options. Use a Form Letters merge to create letters, flyers, and memos that you'll print and mail or send by e-mail. Use a Labels merge when you want to print multiple items on a single sheet of paper—address labels or name tags, for example. Use

a Catalog merge to set up complex documents that have multiple items on a page, such as catalogs and phone directories.

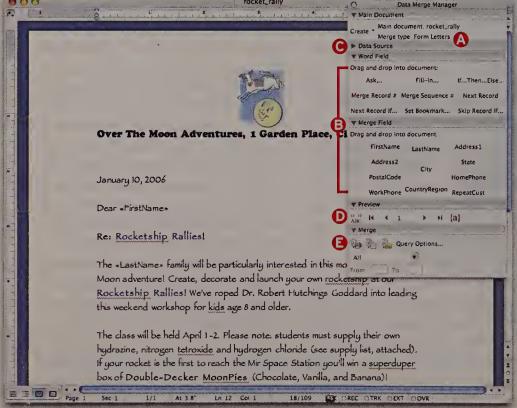
Locate the Data Create or identify the data source. You can use data from any number of places—an Excel list, an AppleWorks word processing document, the Microsoft Office Address Book, a File-Maker Pro database, or a delimited ASCII text file. You can also create a custom data source and store it as a Word document.

Merge It Use the Preview tools to check the merge. Then complete the process by printing or saving. If you use Microsoft Entourage as your default e-mail program, you can send the merged document to the recipients' e-mail addresses. No matter what you do, you can still use the data or the main document separately later on.

Try a Fast Form Letter To create a simple form letter—for instance, to advertise an upcoming event-first create a new blank document in Word and choose Tools: Data Merge Manager to open the palette containing Word's merge tools. Click on the Main Document disclosure triangle and then choose Form Letters from the Create pop-up menu. Type your letter into the Word document. January 10, 2006

For the purposes of this example, we're going to put the addresses in a new Word document, instead of getting data from another source. Click on the Data Source disclosure triangle and choose New Data Source from the Get Data pop-up menu. The Create Data Source window will appear. You'll see a long list of field types under the heading Field Names In Header Row. Select any you don't need, and click on Remove Field Name. If you want to include data that's not in the list, type the name in the text field (for instance, Email Address) and click on Add Field Name. When you're done, click on OK. Give the data file a name and click on Save.

The Data Form window appears. Enter the name and address of the first person on your list. Click on Add New to add the second, and continue to add a few names. Click on OK to finish.



The Urge to Merge Don't bother entering data by hand! Whether you're creating name tags, phone lists, or form letters, Word's Data Merge Manager can help you do it fast. Pick your merge type (a). Drag and drop fields (b) into your document. Designate the data source, whether it's a list of names and addresses or a complex database **©**. Preview your merged documents **()**, and print, e-mail, or save the finished product **(3**.

The fields you set up appear on the palette under the Merge Field header. Drag these fields into position on the letter. To assemble an address block, drag the Title and LastName fields onto one line and separate them with a space. On the next line, use Address1; on the following line, City, State, and PostalCode, each separated by a space. You can use the fields multiple times in a letter—for example, the salutation might read Dear «Title» «LastName».

To check your letter, click on the Preview disclosure triangle. Click on the first icon, View Merged Data, to preview your letter with information from the first record in your data document. Use the Next Record and Previous Record arrows to check the other records. To see the letter with field codes again, click on the last icon, View Field Codes.

To complete the merge, click on the Merge disclosure triangle and then on one of the icons that is revealed. Note that the third icon, Merge To E-mail, sends the document pages to Entourage as e-mail messages. (But to do this, you must include the recipients' e-mail addresses in the data file. You must also select the field containing this data and type a subject line before e-mailing.)

Tackle Tougher Tasks

Try these advanced options for more-complex jobs.

Customize On-the-Fly What if your merge letter will be used repeatedly but will include some updated information, such as a class's date and time or the details of a special offer? In a case like that, use an Ask field, which lets you add data at merge time. Say you want to include the name of the product that's on special this month. In the palette, click on the Word Field disclosure triangle and drag an Ask field to the top of your document. (This ensures that Word will ask for this data as the merge begins.) The Insert Word Field: Ask dialog box opens.

In the Bookmark text field, type a name—for example, Offer (you'll use this in a minute). Then in the Prompt field, type your request: Please type the name of this month's special. Next, in the Default Bookmark Text field, type the default text that Word will use if you or another user—perhaps a salesperson—doesn't provide any new information. Select the Ask Once option and click on OK. Click on OK again when the prompt dialog box appears with your question and default text.

Now it's time to tell Word where to put this information when it's received. Click where the data should appear in the document, and choose Insert: Field. In the Field dialog box, delete the current contents of the text field and type REF bookmark name. In other words, if your bookmark's name is Offer, you should type REF Offer. Click on OK. When you merge your document, Word will ask you to provide the data, you'll type it in the dialog box and click on OK, and it will appear in each merged letter at this spot.



Play with Your Gigabytes

Six-foot block towers may be a thing of your past, but you can take storage to new heights with LaCie's new stackable Brick Hard Drives. These red, white, or blue Lego look-alikes, which should be shipping by the time you read this, come in Mobile and Desktop versions and

this, come in Mobile and Desktop versions and in capacities ranging from 40 to 500GB (\$100 to

\$400; www.lacie.com). Brick Desktop Hard Drives are USB 2.0 only. The Brick Mobile Hard Drives are available with USB

2.0 and FireWire interfaces.—SCHOLLE SAWYER MCFARLAND

Do the Math Word's merge tools can perform math, which is particularly handy if you're creating anything involving numbers. For example, if you want to create a letter offering customers a discount on outstanding accounts paid in full this month, you could include a special field that displays an amount equal to 10 percent of the outstanding amount, which is shown elsewhere in the letter. Let's assume that the outstanding amount is stored in a field called Outstanding. Click where the result of the calculation should appear. Press #-F9 to insert a set of field codes. Type = Outstanding * 0.1 inside the curly brackets and then click outside them. Word makes the 10 percent calculation individually for each record.

Add Some Logic One of the most useful tricks Word has up its sleeve is If...Then...Else fields. Use these logical calculations to make choices when you're creating merged documents. For instance, you can set up one of these fields to check whether the letter's recipient lives in California and, if so, insert a mention of the state tax rates in the letter. If the recipient lives somewhere else, say nothing or add a different comment.

To do this, go to the Data Merge Manager palette and click on the Word Field disclosure triangle. Drag the If...Then...Else field into place on your letter. The Insert Word Field: IF dialog box appears. Set up your conditions using its pop-up menus. For our example, you'd select State from the Field Name pop-up menu; choose Equal To from the Comparison pop-up menu; and type CA into the Compare To text field. In the Insert This Text field, type the text that you want Word to insert if the condition is met. If you want something else to appear in your document if the condition isn't met, type it in the Otherwise Insert This Text field.

Data merging has always been a useful and powerful tool for office productivity. The next time you're performing a repetitive task, ask yourself whether a data merge might save you time and effort.

HELEN BRADLEY writes for small-business and computer publications.

www.macworld.com March 2006 MACWORLD 69

PLAYLIST

Multiple iPods and Computers

Apple has made it pretty easy to sync an iPod with a computer, but what happens when things get a bit more complicated? You may have an entire family fighting to synchronize several iPods with one Mac. Or you may need to share sync duties between your home Mac and a Windows PC at work. If you have more music players or more computers than you know how to deal with, the following tips and tools can help.

oplaylist

Want more tips on digital music?

For iPod- and iTunes-related expert advice and breaking news, as well as reviews of all the latest gadgets, check out playlistmag.com.

Multiple iPods on the Same Mac

Apple includes a unique identifier in each iPod, so iTunes can easily differentiate between multiple iPods and manage settings for all of them. When you use multiple iPods with one computer, assigning each a unique name will help avoid confusion. If you need to change an iPod's name, double-click on that name in the Source menu and enter a new one.

With multiple iPods, iTunes can load each player with the same collection or sync each device with its own customized playlist(s). By default, iTunes is set to Automatically Update All Songs And Playlists. If you want manual control, or if you're connecting an iPod that's synced with one computer to another system and don't want to overwrite all the music on it, you'll want to switch to manual mode. Connect the iPod, click on the No button if iTunes asks whether you want to link that iPod to the new library (you'll be asked only if the iPod has been previously linked to another computer), click on the iPod icon near the bottom right-hand corner of the iTunes window, and select Manually Manage Songs And Playlists in the resulting window (see "Let Me Decide").

General IPod Podcasts Playback Sharing Store Advanced Parental

Video iPod

Automatically update all songs and playlists

Automatically update selected playlists only:

Purchased
Podcast
Protected AAC audio file

Manually manage songs and playlists

Only update checked songs

Only update checked songs

Only update checked songs

Popen iTunes when this iPod is attached

Enable disk use

Display album artwork on your iPod

Cancel

OK

Since each person sharing the computer may prefer to maintain unique iTunes settings, you can set up multiple OS X user accounts, each with its own iTunes library and settings. A downside of this approach is that, by default, iTunes stores its music in each user's Home folder, which means that duplicate copies of shared songs will be maintained for each person.

To avoid having duplicate files, consider setting iTunes to store its Music folder in a location that each user can access, such as a FireWire drive, a network drive, or a part of a local hard drive accessible to all users. To relocate the folder, find its current location by looking at the General tab of iTunes' Advanced preference pane. Quit iTunes and move (or copy) the iTunes Music folder you just found to a new location. Relaunch iTunes, and specify your folder's new location by clicking on the Change button and pointing iTunes to the folder (also under the General tab of iTunes' Advanced pane). Repeat this process for other user accounts on the same computer, and you're set.

If you don't have multiple OS X user accounts, another solution is Doug Adams's \$5 iTunes Library Manager 4.2.5 (macworld.com/1017), which lets you create multiple iTunes library and preference configurations without duplicating files. Once this Apple-Script applet is installed, you run it by choosing it from the Scripts menu in iTunes' menu bar. The first time you launch the applet, it will prompt you to save the current library. You then create as many configurations as you need, and you can load each one as necessary. A similar program, Steve Roy's \$10 Libra 2.0.4 (homepage.mac.com/sroy), also works with Windows.

Multiple Computers

When connecting an iPod to more than one computer, you may want to have all the same music and associated ratings available on each system. There are several ways to do this.

Networked Computers Synchronizing iTunes manually between computers can be a laborious task. Oligrob Software's free syncOtunes 0.95 (***; macworld .com/1018) can ease this chore. It's designed to sync continues

Let Me Decide For more control—or to avoid overwriting an iPod's existing files—when you're connecting multiple iPods to a single computer or a single iPod to multiple computers, activate manual syncing.









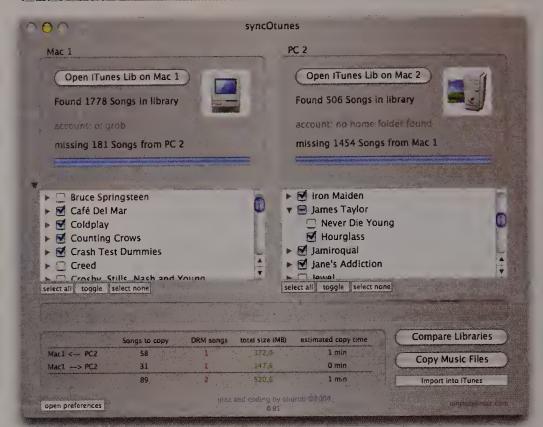




Keep it real.



iSkin.com



It's All the Same You can use syncOtunes to easily synchronize iTunes libraries between two networked computers.

libraries and settings, provided that the computers involved can communicate directly over a network.

After installing syncOtunes, select your local iTunes Music Library.xml file, and then select the same file on the remote computer across the network. Click on the Compare Libraries button to display the number of songs needing synchronization and to select which songs and artists to copy (see "It's All the Same"). Clicking on the Copy Music Files button will then

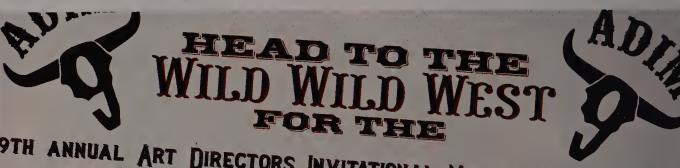
copy the appropriate files into the iTunes Music folder on each computer, which may take quite a while depending on the speed of your network. Once the files have been copied, click on the Import Into iTunes button to open iTunes on the local computer and begin the import process. Then you'll need to run the import manually in iTunes on the remote computer.

Non-Networked Computers For syncing between distant computers—say, a home system and an office computer behind a firewall—using an iPod for transporting files can be more convenient. Because iTunes is set by default to autosync with iPods, be sure to switch to manual mode to avoid losing files.

To prevent the pirating of copyrighted files, Apple designed the iTunes synchronization process to work only in one direction—moving files from a computer to an iPod. While Apple doesn't let you move files off of the iPod the same way you put them on, there are easy ways to do so. Whitney Young's free Senuti 0.31 (******; macworld.com/1019) lets you copy single songs, songs grouped by artist or album, or entire playlists from an iPod into iTunes.

One downside of Senuti is its lack of support for copying metadata such as ratings and play counts. Fortunately, many additional synchronization utilities are available to fill the gap. Two that stand out from the





9TH ANNUAL ART DIRECTORS INVITATIONAL MASTER CLASS (ADIM 9).

MARCH 29 TO APRIL I. 2006 IN MONTEREY, CALIFORNIA

Join top designers, illustrators, art directors and photographers from around the country for three days of hands-on instruction at the wildest design conference in the West. With help from Russell Brown, Julieanne Kost, Michael Ninness, Mordy Golding and Adam Pratt, you'll round up the hottest tools and techniques for Adobe products while working with the latest technology from Apple Computer.

Don't miss the one-day Photoshop Tips and Tricks Workshop, March 29, hosted by Michael Ninness. This workshop will improve your workflow and productivity, as well as help you to produce the highest quality images.

ADD THIS TO YOUR HOLSTER

Each ADIM 9 attendee will receive a FREE copy of Adobe Web Bundle offer available only to those attending the FULL ADIM 9 conference.

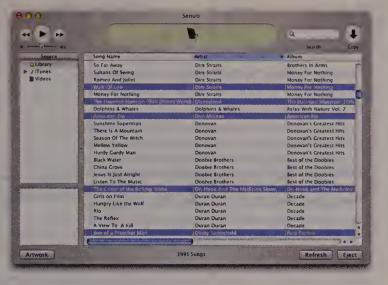
SEATS ARE LIMITED, SO MOSEY OVER TO WWW.ADIMCONFERENCE.COM
AND REGISTER FOR ADIM 9 AND THE PHOTOSHOP TIPS AND TRICKS
WORKSHOP TODAY!

crowd are Sci-Fi Hi-Fi's \$8 PodWorks 2.8.5 (www.sci fihifi.com) and crispSofties' \$35 iPod.iTunes 3.0.3 (www.crispsofties.com). Both programs can transfer metadata along with songs and playlists, but iPod.iTunes has the added feature of avoiding duplicate files by checking for files already in iTunes before synchronization.

Another option is a new service called MP3tunes (www.mp3tunes.com), which provides syncing tools and unlimited online storage space for all your music files for \$40 a year. Remember that you can authorize only five computers at once to play songs purchased from the iTunes Music Store.

Syncing across Platforms Syncing iPods between different operating systems can be more complex. Officially, Apple doesn't support using a Mac-formatted iPod on a Windows PC. However, cross-platform syncing is possible. Windows-formatted iPods make for the easiest cross-platform syncing: Macs are natively capable of accessing the FAT32 standard used on Windows iPods, so a Windows-formatted iPod will appear in iTunes on a Mac and can be accessed seamlessly (though transfer speed is likely to be slower than it would be with a Mac-formatted iPod).

Windows does not natively support Mac-formatted iPods, so syncing a Mac-formatted iPod to a Windows PC requires a third-party utility such as Mediafour's



Pull It Down Senuti lets you copy the contents of your iPod into iTunes on your Mac.

\$30 XPlay 2.2 (www.mediafour.com). In addition to its own Windows-to-iPod syncing capabilities, XPlay 2.2 can be used in conjunction with iTunes. The program also lets you move files from an iPod to a PC.

Using the restore feature provided by Apple's iPod Updater, you can convert an iPod from Mac to Windows and vice versa. But all data is erased from the device during the restore process, so use one of the methods mentioned earlier to back up any data unique to the iPod before you attempt a conversion.

With a little patience and the right settings and tools, even the most complicated group of iPods, Macs, and Windows PCs can make beautiful music together.

MATT VANCE (www.minezone.org) is a technology consultant, Web developer, and freelance writer in Austin, Texas.



www.macworld.com

March 2006 MACWORLD 73

DIGITAL PHOTO

Optimizing Photoshop CS2

Most people would prefer not to see the spinning beach ball when working in Photoshop. Although eliminating it is not always possible, you can go some way toward doing that by managing your resources wisely. To that end, it's worth spending a few minutes fine-tuning Photoshop to squeeze the maximum performance out of it.



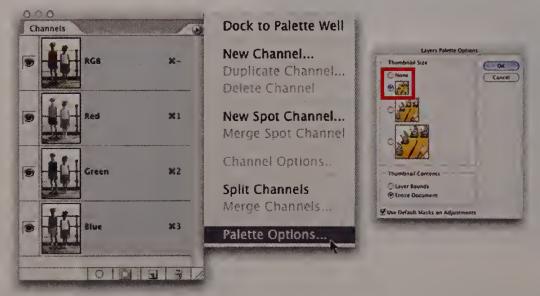
By the Book This article is an excerpt from Hacking Photoshop CS2, by Shangara Singh (2005; reprinted by permission of Wiley Publishing).

Adjusting Cache Levels

When you view an image in the document window at anything less than 100 percent magnification, Photoshop can use low-resolution cached versions of the 100 percent view for speedier redraws. This can be helpful if you constantly work on large images and you need to zoom out frequently. However, it will take longer to open files while Photoshop creates the low-resolution previews.

You can specify the number of cache levels in the Preferences: Memory & Image Cache screen (press \mathbb{H}-K to open the Preferences dialog box). The higher the number of cache levels, the more resources Photoshop needs to consume. If you have limited RAM or scratch-disk space, you may wish to set the number of levels to 1 or 2; the default is 4 levels. You can go as high as 8 levels, which will give you cached views at 66.67, 50, 33.33, 25, 16.67, 12.5, 8.33, and 6.25 percent.

Although the cached views can help with speedier redraws, you'll do well to remember that any reading based on a cached view will be misleading; for example, when you sample a color or use a cached view to judge the effect of a filter, what you're looking at will not be based on actual pixels. For critical readings, always view the image at 100 percent magnification.



Losing Thumbnails Palette previews consume resources. Select None or the smallest thumbnail size to conserve them.

Reducing History States

The History feature has become one of the most widely used in Photoshop. Its major downside is that it's another resource hog.

But you can change several options to conserve and stretch your resources. The first one is the number of History states that Photoshop saves in RAM or on your scratch disk. The higher the number, the more resources are eaten up. However, the higher the number, the more undos are available to you should you need to step back to a previous state. You need to strike a good balance between a fallback position and the ability to cruise faster.

By default, Photoshop saves 20 History states. You can change this number at any time via the Preferences: General screen's History States setting. If you find that you rarely go back beyond, say, 10 history states, then reducing the number will allow the saved resources to be used elsewhere. If you find yourself constantly trying to find states that have disappeared from the History palette, then increase the default number and just put up with slower performance, which may not be noticeable if you have small files or if you have large reserves of RAM.

Reducing Palette Thumbnail Size

The palettes also have options that can affect performance. For example, the Layers, Channels, and Paths palettes all store thumbnails by default, and these thumbnails are continually updated as you work on an image. However, to draw and update the thumbnails, Photoshop uses resources that may be gainfully employed elsewhere. If your resources are painfully low, you may want to select None or the smallest thumbnail size. To customize the palette previews, select Palette Options from the palette's menu and then choose an option that suits your needs (see "Losing Thumbnails").

Do You Really Need That Snapshot?

You can set other options that affect performance by selecting History Options from the History palette menu. The first two options in the History Options dialog box, Automatically Create First Snapshot and Automatically Create New Snapshot When Saving, are the ones that consume extra resources.

The first option is actually quite handy, even if it does consume extra resources. It can get you out of a tight spot if you accidentally flatten a multilayered file or press \(\mathbb{H}\)-S but don't discover your mistake until well into the editing session, by which time the earlier states will have been overwritten, including the first state. When you click on the snapshot, the document will revert back to the state it was in when it was first viewed in Photoshop, which may not be the same as the version on disk if you changed its color profile in any way when you opened it.

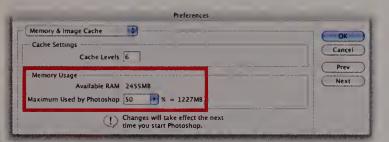
The second option (Automatically Create New Snapshot When Saving) is one that you can probably live without; you'll have to decide whether to take advantage of it. Just remember that it will consume extra resources if enabled.

Assigning RAM

All the software on your computer, from the operating system to applications to widgets, relies heavily on RAM for speed and efficiency. Photoshop can guzzle RAM the way a Mercedes G500 guzzles gasoline. So you need to give it as much RAM as you can possibly afford. The key word here is *afford* because the operating system also needs a plentiful supply of RAM; therefore, it's a bad idea to starve it while indulging Photoshop.

Photoshop gets its share of RAM from the figure allocated to it in Preferences. When it has used up its allocation, it pages out the data to the hard disk (allocated to it as the scratch disk in Preferences), and the result is that it runs more slowly. Knowing this, you may be tempted to max out the RAM allocation at 100 percent in order to make it run faster. Not a good idea! Allocating too much memory to Photoshop may slow down performance by forcing the operating system and Photoshop to swap pages in and out of memory. So what amount of available RAM should you allocate? It depends.

Photoshop can use a maximum of only 4GB of RAM. This limitation is imposed by hardware, operating systems, and some other things that only geeks and engineers with degrees in astrophysics understand fully. Suffice it to say, if you have 4GB of RAM, or more, installed, you can safely increase the RAM allocation to 70 percent. Doing so will ensure that Photoshop uses as much RAM as it possibly can, up to the 3.7GB limit (or thereabouts, because the OS will reserve some of the 4GB for itself). If you do not have more than 4GB of RAM installed, you should reduce the allocation to about 50 or 60 percent, especially if you are experiencing slow performance in Photoshop, which includes Camera Raw. To allocate RAM, go to Preferences: Memory & Image Cache



and specify a percentage in the Memory Usage section of the dialog box (see "A Better Memory"). You will need to restart Photoshop before the revised allocation takes effect.

Assigning Scratch Disks

Photoshop uses a temporary file for storing data and performing computations when there is insufficient RAM. It places this temporary file, or scratch disk, on your hard disk, or it can spread the file across several hard disks. When you exit Photoshop, this temporary file is deleted, and a fresh one is created the next time you launch Photoshop.

By default, Photoshop uses your startup hard drive as the location for the scratch disk. This is something to be avoided because it can hinder performance if your OS also uses that drive for its virtual memory needs. Because OS X uses the startup drive to place its paging file, you are almost guaranteed conflict on a Mac. To overcome this potential conflict of interests, you can tell Photoshop which hard disk to place its scratch disk on—provided, of course, that you have more than one hard disk installed in your computer. If you have just one disk but it's partitioned, selecting a partition different from the one containing the OS virtual memory files won't speed up performance. In fact, performing some operations may even take longer because the read-write heads will have to travel farther.

You can assign scratch disk(s) in the Preferences: Plug-Ins & Scratch Disks screen. It's possible to assign up to four hard disks, or partitions, and Photoshop will see them as one large storage space for the temporary file. Photoshop supports up to 64EB (an exabyte [EB] is equal to 1 billion gigabytes) of scratch-disk space—more than sufficient for most needs!

Regardless of the number of hard disks you assign, make sure the minimum size is three to five times the RAM allocated to Photoshop. Furthermore, the hard drive should be fast, and if it's partitioned, the first partition should be assigned. Do not assign removable media, such as a Zip drive, or a network drive as a scratch disk. If you assign dedicated partitions that do not store any other files, defragging should not be required.

Needless to say, the more space you can spare, the lower the likelihood that you will encounter the dreaded "Scratch Disk Is Full" error message at a crucial moment.

SHANGARA SINGH is a Photoshop ACE (Adobe Certified Expert) who has written and designed study aids for Adobe Photoshop and Illustrator proficiency exams.

A Better Memory

If you experience slow performance, try reducing the RAM allocation to 50 or 60 percent in the Memory Usage section of the Memory & Image Cache pane of the Preferences dialog box.

www.macworld.com March 2006 MACWORLD 75

CREATE

Send Video Abroad

Movies may have a universal appeal, but video standards do not. To send movies from North America to Europe (and some other places), you must first convert the video from the NTSC standard to the PAL standard. Until recently, that meant paying for a *standards conversion*—a process that can cost anywhere from \$100 to \$1,000. But if you have Apple's Final Cut Studio, you can get the same results from your Mac.

For reasons buried in antiquity, European and North American television signals evolved along very different paths. The North American NTSC standard runs at 29.97 frames per second and has a visible resolution of 720 by 480 pixels for DV (720 by 486 pixels for uncompressed signals, such as Digital Betacam). The

European PAL system runs at 25 fps and has a resolution of 720 by 576 pixels—giving it 96 more lines and 5 fewer frames per second.

Third-party Final Cut plugins, such as Nattress's Standards Conversion 2 (\$100; www.nat tress.com), can convert from one standard to the other for you. But a robust standard converter ships with every version of Final Cut Studio—it's called Compressor 2. (Compressor also ships with the stand-alone versions of Final Cut Pro 5 and DVD Studio Pro 4.)

One of the major improvements in Compressor 2 is the addition of Optical Flow technology. Optical Flow tracks the movement of images at a pixel level. So if Compressor 2

needs to create 5 more frames per second, it can predict where those pixels would naturally go. However, to get the best quality from your conversions, you'll need to play with some of the settings within Compressor.

For simplicity's sake, these instructions cover only DV conversions. However, once you understand the workflow, you can easily adapt it to other formats, including uncompressed video and DV50.

One downside to using Compressor for this process is that it's rather slow—my dual-2.5GHz G5 needed 30 minutes to convert a minute of NTSC footage. Compressor 2 does allow you to combine the processing power of several networked computers to cut down

significantly on conversion time (for instructions on setting this up, go to macworld.com/1078).

Converting from NTSC to PAL

To convert NTSC video, launch Compressor 2 and drag the NTSC movie to the Batch window. The movie's name will appear in the Source Media column. Click on the Settings pull-down menu and choose Advanced Format Conversions: DV PAL.

Although you *could* press the Submit button now, the results would likely disappoint you. The default settings leave much to be desired. To get the best results, you'll want to modify some of the settings and create a custom preset.

To adjust the conversion settings, open the Inspector window (Window: Show Inspector). Click on the Frame Controls button (it's the third from the left), and then select Custom from the Frame Controls pull-down menu (see "High Standards"). Next, set the Resize Filter menu to Best (Statistical Prediction). This changes the frame size from 480 pixels to 576 pixels using Optical Flow tracking. Set the Output Fields menu to Same As Source.

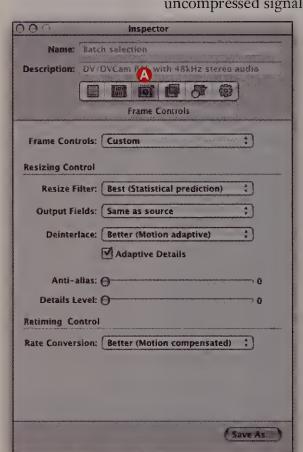
And here's the most important (and the least intuitive) part: set the Deinterlace menu to Better (Motion Adaptive)—not Best. If you set Deinterlace to Best, the resulting video is overenhanced and filled with artifacts. It also takes much longer to render (four times longer on my dual-2.5 GHz G5). Using the Better setting, on the other hand, results in a great picture.

Finally, set Rate Conversion to Better (Motion Compensated). This setting changes the frame rate from 29.97 fps to 25 fps. When you're done, click on Save As and give your customized preset the name NTSCtoPAL.

Return to the Batch window. Click on the Settings pull-down menu and choose your new NTSCtoPAL preset from the list. Delete the PAL DV session from the Batch window and click on Submit.

Converting from PAL to NTSC

There are two methods of converting from PAL to NTSC: traditional and Slow-PAL. The traditional



High Standards

Using Compressor's DV PAL preset as a starting point, open the Inspector window's Frame Controls panel adjust the settings as seen here to fine-tune the NTSC-to-PAL conversion process.

method converts 25-fps PAL video to 29.97-fps NTSC video by creating new frames based on the pixel information in the existing frames (this is essentially the reverse of the NTSC-to-PAL process). This leaves the movie's audio quality and run-time unaltered. And while the video quality isn't as pristine as what you'll get with the Slow-PAL method, it's still quite good.

With the Slow-PAL method, on the other hand, the goal is to manipulate the video frames as little as possible—and thus end up with a better-looking video. You'll use Apple's Cinema Tools (included with Final Cut Studio) to change the frame rate from 25 fps to 23.98 fps before converting the video to the NTSC standard in Compressor. You'll then use Final Cut to fill out the movie to 29.97 fps by strategically duplicating video fields (this process is similar to the telecine process used with film).

Although it's more work, the Slow-PAL method results in excellent video quality—one reason most professional services use this method. The conversion process is also much faster. The downside is that the converted video runs roughly 4 percent slower than the original and the sound drops slightly in pitch (though few people will notice the difference).

The Traditional Method

To convert PAL to NTSC using the traditional method, follow the same process as for converting NTSC to PAL, but with one important change: choose Advanced Format Conversions: DV NTSC from the Settings pull-down menu. Then change the other menus as described previously, and save the custom preset as PALtoNTSC. Use the new preset for the conversion process.

The Slow-PAL Method

If you're willing to put in the extra work, I recommend the Slow-PAL method.

Step 1 Launch Cinema Tools. You don't need to build a database for this process, so disregard the

	maily & Kalifie		ioneral Victorial Education Street Revelling
Płayback		-	
RT*	Safe	10	Play Base Layer Only (if render needed)
Video Quality	Dynamic		E Beep When Playing Unrendered Audio
Frame Rate	Full	13	Scrub High Quality
Pulldown Pattern.	23.23	13	€ Multiclip Playback
Gamma Correction.	Accurate	13	
Frame Offset.	4		
Note The vices auchty and su RT populy in the Turks he for t Record Full Quality			riscalur browne are based on system performance. Chack the ''

Stretching to Fit To finish the Slow-PAL conversion process, import your movie into Final Cut Pro and set the Pulldown Pattern menu to 2:3:2:3.



database queries as the program starts. Choose Open Clip from the File menu and select the PAL movie you want to convert. It will load into a viewing window (see "Slow-PAL"). Click on the Conform button. When the Conform Clip dialog box appears, choose 23.98 from the Conform To pull-down menu. Then click on the Conform button in the dialog box. Conforming the video file changes the frame-rate data only of the QuickTime file, not of the video frames themselves. As a result, the finished movie file will run slightly longer.

Step 2 When Cinema Tools is done, drag the file into Compressor's Batch window. From the Settings pull-down menu, select Advanced Format Conversions: DV NTSC. Open the Inspector window's Frame Controls panel and set Resize Filter to Best (Statistical Prediction), set Output Fields to Same As Source or Progressive, and set Deinterlace to Better (Motion Adaptive). Then set Rate Conversion to Fast (Nearest Frame).

Step 3 While still in the Inspector window, click on the Encoder tab (the second button from the left), and then click on the Video Settings button. In the dialog box that appears, change the Frame Rate menu to Current and click on OK. Save the preset as Slow-PALtoNTSC and use it to submit your job.

Step 4 Since normal NTSC video runs at 29.97 fps, you now need to somehow add 6 frames (or 12 fields) of video per second. You do this by inserting a 3:2 cadence—a process that repeats one out of every four video fields. Evenly spreading out the repeated fields allows the video to remain smooth.

To do this, import the converted Slow-PAL clip into Final Cut Pro 5 and create a new sequence set to DV NTSC 48 kHz 23.98. Open the System Settings window's Playback Control panel and set the Pulldown Pattern menu to 2:3:2:3 (see "Stretching to Fit"). Finally, output the video to a FireWire video deck (File: Edit To Tape). The result should be a superb NTSC product.

ANTON LINECKER is a writer and video technical advisor based in Los Angeles.

Slow-PAL Using Cinema Tools, conform your PAL video from 25 fps to 23.98 fps.

MOBILE MAC

Big File, Slow Connection

You're out in the boonies, and you've got to send a huge file—100MB, let's say—but you have no reliable, high-speed way to do it. Maybe the Internet connection you have is slow or intermittent. Maybe your carrier has blocked FTP service. Or maybe your e-mail service provider limits the size of attachments. Fortunately, you still have several ways to get that data where it needs to go.

The Need for Speed

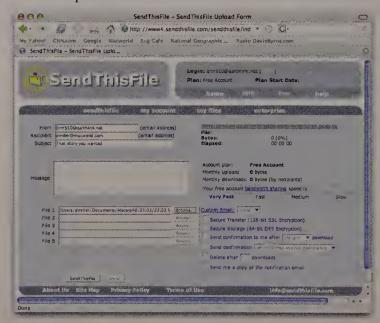
The first, and most obvious, step is to compress the file so you know exactly how big a job you're facing. For most of us, Allume's StuffIt Deluxe (****; March 2005) is the default tool.

The next thing to do is ask yourself how fast your connection is. If your upload speed is measured in kilobits per second, divide it by 8,192 to translate it into megabytes per second. Now divide your compressed file's size (in megabytes) by the megabytesper-second rate to find out approximately how long, in seconds, it will take to upload your file. For example, let's say I have a 125-Kbps connection and a 100MB file: the upload should take 6,554 seconds—or about an hour and 49 minutes.

Alternative Connections

If that's more time than you have, you should consider other possibilities:

Cellular Service If your cell phone supports Bluetooth (or if you have an appropriate cable), you can use it as your modem (see "Get Online with a Cell Phone" at macworld.com/1090). Although cellular data speeds are usually slower than dial-up, some newer phones are faster. But you'll need to have a data-service plan from your provider, which can be rather expensive.



Be Prepared

If there's the slightest chance you'll have to send a huge file while you're on the road, be sure to pack:

- > phone and Ethernet cables (for making whatever wired connections you can)
- an iPod, a pocket hard drive, or a USB flash drive (for file transfers)
 - > blank CDs or DVDs
- > your favorite FTP client (I like Panic's \$30 Transmit [****]; macworld.com/0657])
- > a Windows FTP client (check the Windows sections of www.versiontracker.com or www.shareware.com) on a CD, in case you have to transfer files via a PC with no FTP client
- > Allume's StuffIt Deluxe, which can compress files (an essential first step that many utilities can accomplish) and divide large files into smaller segments, giving you more transfer options

You can also buy a PC Card cellular modem, which plugs right into your PowerBook's PC Card slot. This option, too, requires planning ahead.

Hotspots Even the smallest, most out-of-the-way towns often have at least one cybercafé—and that means a relatively fast wireless connection. Look for signs in the windows of coffee shops, restaurants, airports, train stations, and bus or ferry terminals.

New Friends If neither the cellular nor the hotspot option is available, look for people. If you're at an airport or a trade show, for instance, a nearby laptop user may have a faster connection than you. It never hurts to ask, and a new acquaintance may be willing to upload a file for you.

Free Computers Almost every public and university library has Internet-connected computers available to patrons; many of those connections are relatively speedy. You can also look for retail establishments that make Net-connected computers available to the public. I've found them at photocopy shops, computer stores, hotels, bookstores, and museums.

Let the Web Do It

Online services such as SendThisFile.com can take care of transferring large files for you when e-mail won't work.

File-Transfer Services

If neither e-mail nor FTP is workable, consider a Web-based file-transfer service. After using your Web browser to upload one or more files, you get a private link from which the file can be downloaded; you can then send the link to your file's intended recipient.

The services listed here are free, but some offer larger file-size limits, greater bandwidth, or other benefits for a fee. Some also include e-mail notification for the recipient. Most offer live progress indicators, but these indicators seldom worked in the Mac browsers I tested (Safari, Firefox, OmniWeb, and Opera)—even when the uploads themselves succeeded.

SERVICE	REGISTRATION REQUIRED	FILE SIZE MAXIMUM	BROWSER COMPATIBILITY: UPLOADS	BROWSER COMPATIBILITY: PROGRESS INDICATOR	E-MAIL NOTIFICATION	PAID UPGRADE AVAILABLE
Dropload.com	yes	100MB	Firefox, OmniWeb, Opera, Safari		yes	no
Megaupload.com	no	250MB	Firefox, Opera	Firefox, Opera *	no	yes
RapidShare.de	no	50MB	Firefox, OmniWeb, Opera, Safari	Firefox, OmniWeb, Safari	no	yes
SendThisFile.com	yes	unlimited	Firefox, OmniWeb, Opera, Safari	Firefox	yes	yes
YouSendIt.com	no	1GB	Firefox, OmniWeb, Opera, Safari	none	yes	no

Both are text only.

If you're prevailing upon the kindness of strangers or using a free computer, you'll need a way to get the file from your Mac to the second system. If wireless networking or Bluetooth aren't options, an iPod, a USB flash drive, an Ethernet cable, or optical discs may come in handy (see "Be Prepared").

One File, Many Paths

If the arithmetic you did to find out how long your file would take to load tells you that you can theoretically send your huge file in a reasonable amount of time, FTP is one of the best options. But ISPs sometimes place limits on what you can do with FTP.

If you try to transfer your file via FTP but can't, your provider may be blocking port 21 (probably in an effort to improve overall network performance). You can find out for sure by opening Terminal and entering telnet ftp.your_service_provider.com 21 (using the name of your service provider). If you see a connection message, port 21 is open; if nothing happens for several minutes (or if you see an "operation timed out" message), port 21 is blocked.

If that's the case, try switching your client so it uses SFTP (which uses port 22 and encrypts your connection) or WebDAV (port 80), assuming your server supports one of those protocols. (Check with your FTP



Break It Up When you can't send a big file in one chunk, use Stufflt Deluxe to break it into smaller pieces.

service provider.) If you're a .Mac subscriber, consider putting the file in your iDisk's Public folder; because OS X uses WebDAV to communicate with iDisk, that folder may be accessible even if FTP and SFTP servers aren't.

Creative Uploading

When FTP isn't an option, there are other possibilities. Online Storage Space If your ISP doesn't offer FTP services, you can buy online storage space from companies such as Strongspace (www.strongspace.com) and LeapFile (www.leapfile.com). Such services are accessible via a Web browser or an FTP or SFTP client.

File-Transfer Services If you can browse the Web, you can try a Web-based file-transfer service (see "File-Transfer Services"). After uploading your file, you send—or, in some cases, the service sends—a message to the recipient with a special URL that the file can be downloaded from.

iChat Don't forget that iChat AV lets you send files to the person you're chatting with; simply drag and drop the file into your iChat window. If you can contact a friend via iChat, he or she may be able to forward the file along to its final destination.

E-mail Many e-mail systems place limits on the size of attachments. Unfortunately, there's no easy way to tell in advance what those limits might be-your ISP and your recipient's ISP may both impose limits, and those limits may be per message, per account, or both.

If no single tool lets you send a file in its entirety, you can always divide it into smaller segments and then send each one singly. StuffIt Deluxe makes this easy: Instead of just compressing your file, choose Translate: Segment, and then select a file. Choose the desired segment size from the Segment Size pop-up menu (5MB is usually safe) and a compression format (StuffItX or Stuff-It5, depending on what your recipient has) from the Format menu. Then click on Choose.

Don't Give Up

It may take a bit of creative thinking and a bit of extra effort, but where there's a will, there's almost certainly a way to get large files to their destinations.

JOE KISSELL has written numerous e-books about Mac OS X software (www .takecontrolbooks.com).

GEEK FACTOR

Take Command of Permissions

The command line may not be the most intuitive way to control your Mac, but often it's the fastest—especially when it comes to *permissions*. These behind-the-scenes settings determine whether you're allowed to open, change, or delete files and folders. You can use the Finder's Get Info command (#-I) to view a file's permissions—but you won't see all the settings Unix provides, and every now and then you might want to.



By the Book This article was adapted from Mac OS X: The Missing Manual, Tiger Edition, by David Pogue (reprinted by permission of O'Reilly Media, 2005).

When Terminal Saves Time

Suppose, for example, that you're a teacher in charge of a computer lab containing 25 Macs. On each computer, you've created standard accounts for 5 students, for a total of 125 student accounts. Soon after the students start using the lab, you notice a bit more giggling and frantic typing than you'd expect from students researching Depression-era economics. You nonchalantly stroll to the end of the room and do a quick about-face at one of the desks.

Aha—iChat! Horribly depressed by the comments you read there regarding your fashion sense, you vow to keep students from using that application ever again. You have several options. You could delete iChat from every Mac's Applications folder. Unfortunately, the computer club meets in your classroom after school, and its members routinely use iChat to communicate. You could set up Parental Controls (see "Kid-Proof Your Mac" at macworld.com/1039) for each account...but you'll have to repeat the task 124 times.

Or you could go to a Mac, fire up Terminal (/Applications/Utilities), and type a quick command to turn off iChat's execute permissions for standard account holders. (The computer club's members all have administrator accounts.) And you'll have to repeat this job only 24 times.

A Peek inside Permissions

To view iChat's ownership and permissions information with Terminal, use the 1s command, like this:

ls -1 /Applications/iChat.app/Contents/ MacOS

The -1 flag produces a *long list*—an expanded display showing extra information about each item in

the directory (in this case, its single iChat file). Terminal's response will include something like this:

total 4400

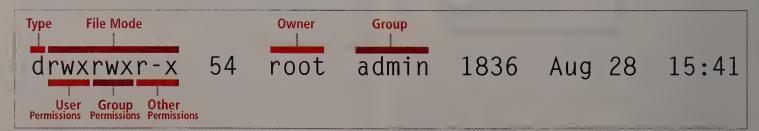
-rwxrwxr-x 1 root admin 2252792 Mar 20 21:07 iChat

What's -rwxrwxr-x? You're seeing Unix shorthand for the application's permissions, listed in what are supposed to be helpful columns (see "Crack the Code").

- > Type The first character of the line indicates the file type—usually d for a directory, 1 for a symbolic link (the Unix version of an alias), or, as in this case, a hyphen (-) for a file.
- > File Mode Rammed together with the file type is a string of nine characters (in this case, rwxrwxr-x). It indicates, in a coded format, the actual access permissions for that item (see "Decode File-Mode Code").
- > Owner Terminal's response also identifies the account name of whoever owns this file or directory, which is usually whoever created it; root means that OS X itself owns it. That's why even administrators generally aren't allowed to delete directories with root ownership. (In the Finder's Get Info windows, you may see ownership listed as System. That's Apple's kinder, gentler term for root.)
- > **Group** After the owner comes the name of the group that owns this file or directory. The admin group contains all administrators.
- > Path Name At the end of the line (following the file's size and date) comes the path of this file or directory, relative to the listed directory.

Masterminding Your Plan

Now, back to the task of keeping iChat from launching. As you look at iChat's permissions, the x in every



Crack the Code Here's one line of what the 1s -a1 command produces. The letters in the file-mode column aren't just random—the three distinct sets of information here tell you who's allowed to do what.

80 MACWORLD March 2006

user category tells you that anyone can run the program. Your mission, should you choose to accept it, is to change these settings so that one class of account holder (admin) can run iChat, but another class (standard) can't.

As you've seen, every file's set of permissions identifies both an owner and a group. The group that owns the iChat file is admin. As you would expect, the admin class of users is part of the admin group, so administrators and anyone else in the admin group will have no trouble running the program.

As far as permissions are concerned, standard account holders fall into the "everyone else" category. To complete your task, you just need to turn off iChat's execute permissions for everyone else. Doing so allows only the file's owner (root) and members of its group (admin) to execute the file (that is, to open the program). All other account holders—that is, people in the standard group—are out of luck. They'll actually have to pay attention in class.

Putting It Together with chmod

The Unix command for changing file modes (permissions) is chmod (short for *change mode*). Here's the command you'd use on the iChat file:

chmod o-x /Applications/iChat.app/Con
tents/MacOS/iChat

And here's how it works. The command line begins, naturally, with the chmod command itself, and ends with the path name of the iChat file.

In between are three characters that make up the three parts of a mode-change clause: 0-x. The first character, 0, represents the class of user that the change affects. In this spot, you can type u to symbolize the file's owner, g for its group, 0 for other (everyone else), or a to indicate all three classes at once.

The second character represents the operation to perform, which in most cases is either to add a permission using the plus sign (+) or to remove one using the hyphen (-). The final character specifies which permission to change: r for read, w for write, or x for execute.

So the complete chmod command provided above says, "Remove the execute permissions for others," which is precisely what you want to do.

Get Permission If you actually try the chmod command described above, however, you'll get an error message ("Operation not permitted"). Only the owner of an item can change its permissions, and you're not iChat's owner.

So how do you solve the problem? Use the sudo command. Technically, sudo is short for *superuser do*, and it allows you to execute any command as though you'd logged in with the root (superuser) account. If you have the root account—or can simulate one using sudo—you can override any permissions settings, including the ones (like iChat's) that prevent you from changing items in the Applications directory.

Decode File-Mode Code

You don't need a secret decoder ring to understand Unix permissions, but you do need to familiarize yourself with *file-mode code*. You'll see this coded nine-character file-mode section whenever you use Terminal to uncover a file's permissions.

The code's three subcolumns correspond to three categories of people: owner, group, and everybody else. Within each sequence, three characters describe the read (r), write (w), and execute (x) permissions this person or group has for this file or directory. A hyphen (-) means "This person isn't allowed this kind of access."

Read Access Read access to a file means that someone can open and read it. (In the case of a program like iChat, the system needs to read the file on your behalf in order to run it.) Read access to a directory (folder), on the other hand, just means that someone using Terminal can see a list of its contents using a command such as 1 s.

1001

Write Access Write access to a file means that someone can modify and save changes to it. Write access to a directory means that someone can add, remove, and rename any item the folder contains (but not necessarily the items within subdirectories).

Execute Access Execute access, when applied to an application, means that someone can run that particular program. (In fact, Unix distinguishes applications from ordinary files by checking the status of this setting.)

Finally, you're ready to change the permissions of that infernal iChat application file. To use sudo, you must preface an entire command line with sudo followed by a space. Type this:

sudo chmod o-x /Applications/iChat.app/
Contents/MacOS/iChat

This command breaks down as follows:

- > sudo: "Give me the power to do whatever I want."
 - > chmod: "Change the file mode . . . "
- > 0-x: "... in this way: remove execute permission for others..."
- > /Applications/iChat.app/Contents/ MacOS/iChat: "... from the file called iChat, which is inside the Applications/iChat.app/Contents/ MacOS folder."

Then sudo will ask for your administrator password, just to confirm that you're not some seventh-grader up to no good. Now whenever anyone who isn't an administrator tries to open iChat, its icon will bounce just once in the Dock—nothing more. To restore iChat's original permissions, use the same command, but replace the hyphen with a plus sign, like this:

sudo chmod o+x /Applications/iChat.app/
Contents/MacOS/iChat

Note that whenever OS X's Repair Permissions function runs (either automatically, which happens each time you install a Mac OS X update, or manually, via Disk Utility), iChat returns to its original permissions settings. You have to rerun the command.

Contributing Editor DAVID POGUE is the weekly technology columnist for the *New York Times*. CHRIS STONE is a coauthor of *Mac OS X Panther in a Nutshell* (O'Reilly, 2004).

www.macworld.com March 2006 MACWORLD 81

HELP DESK

Mac OS X Hints

The Insiders' Tips You Won't Get from Apple

Don't Wait on Spotlight

If you use Spotlight searches in the Finder and you've got one or more large, data-laden hard drives (my system has two drives with ten partitions), you're probably well aware of the ability of these searches to



Big Stickies Add scroll bars to your stickies, and you can peruse your long notes with ease. No arrow keys required.

turn your Finder into a first-class spinning beach ball. This most often happens just as you start typing your search term. For instance, say you're looking for a particular landscape photo, and you begin to type the word carnation. Thanks to the live search feature, your Mac wastes time looking for matches for c, ca, and car as you type.

While you can't totally avoid extraneous results,

here's one way to minimize them. Instead of typing your search term in the Finder's search box, first type it in any open application. For example, you could type it in Safari's address bar or Google search box, a TextEdit document, a Stickies note, or a widget. Select the word with the mouse and press #-C to copy it to the Clipboard. Switch back to the Finder, click inside the Spotlight search box (or just press #-F), and then press #-V to paste in your search term. You don't even have to press return—the Finder will go ahead and do a live search.

Now Spotlight will find matches for the entire word, instead of struggling with matches for all the partial words it can make from your search term.

Select Columns in Preview PDFs

If you work with multicolumn PDF documents in Preview, here's a handy time-saver. You're probably familiar with Preview's text-selection tool, accessed via either the Tools: Text Tool menu item or $\Re -2$. Using this tool, you can drag to select and copy a section of text from a PDF (as long as it's not protected), and then paste that selection to the Clipboard.

But with multicolumn documents, this doesn't work as you might expect—when you drag the cursor down to capture one column, for instance, Preview captures *all* the columns on the page. This can be quite frustrating, and makes it difficult to get just

the text you want out of Preview. Luckily, there's a workaround.

After you make the text tool active, press and hold the option key. The cursor will change from the text I-beam to a small cross. Continuing to press the option key, drag a rectangular region around the desired text. This trick makes it a piece of cake to capture just the column you want.

Scroll through Stickies

Apple has souped up Stickies—those little notes you can leave on your Mac's desktop—quite a bit over the years. But the one thing you still can't do is scroll through a long note. If you have a lot of text you want to keep handy, you have to use the keyboard (the uparrow and down-arrow keys or the page up and page down keys) to navigate. But as long as you've installed Apple's Developer Tools (Xcode) from your Mac OS X installation disk, you can overcome this limitation.

First make sure Stickies isn't running, and then make a backup of the application (/Applications), just to be on the safe side. You can option-drag it to another folder or drive to make a copy. If you have a lot of important information in your notes, you may want to back them up as well. (They're stored in a file called StickiesDatabase in *your user folder*/Library.)

Now control-click on the Stickies application and choose Show Package Contents from the contextual menu. In the new window that opens, navigate to Contents/Resources/English.lproj. (If you're not using an

WEB:

WHAT'S ONLINE

Rename Your System Folders

If you're tired of Apple's stock names for your system folders (Movies, Pictures, and so on), learn how to give them any name you like—without breaking the OS (macworld .com/1035).

Use Media Discs at Login

Want to start playing that CD or DVD in your machine automatically when you log in? Now you can (macworld .com/1036).

Play an Old-School Adventure Game

Try this text-only adventure game for a taste of what the computing world was like before 3-D—graphics cards arrived on the scene (macworld.com/1037).

UNIX TIP OF THE MONTH

Rename the Trash in the Dock

When you mouse over each item in your Dock—including the Trash—Mac OS X displays its name in a small floating label. What you may not have realized is that you're not stuck with the name Trash. You can express your creativity by calling it "The Dumping Zone," "Unwanted Unused Unloved," or whatever else strikes your fancy.

Launch Terminal (/Applications/Utilities) and type these commands, one after another:

cd /System/Library/CoreServices/Dock.app/\
Contents/Resources/English.lproj

sudo cp InfoPlist.strings
InfoPlist.bak

sudo cp InfoPlist.strings
~/Desktop/InfoPlist.txt

You just navigated into the Dock's application bundle, created a backup copy of a file, and copied that backup file to your desktop. Now, leave the Terminal window open right where it is. Switch back to the Finder, navigate to your desktop, and double-click on the InfoPlist.txt file you'll find there. When it opens, you should see something similar to the image in "Name That Trash." Note that if you've got Apple's Developer Tools installed, the file may open in Property List Editor instead of TextEdit; if so, just edit it there.

The line you need to modify is the first one (boxed in red in the screenshot). Do not change anything to the left side of the equal sign (=). Instead, just change the word Trash to whatever you like, making sure

to leave the quotation marks intact. Save the file when you're done. Text-Edit will probably give you a warning that the file is write protected; choose Override to go ahead and save your changes. Once that's done, close the file and switch back to Terminal.

Now you need to overwrite the default InfoPlist.strings file with the newly modified version. To do that, type this command in Terminal and press return: sudo cp ~/Desktop/InfoPlist.txt InfoPlist .strings

To make the changes take effect, quit and restart the Dock by typing

killall Dock and pressing return. When you do so, the Dock will disappear and reappear. Mouse over the Dock's Trash icon. If everything worked, you should see your newly chosen name.

If you ever tire of your moniker, you can simply repeat the above steps, putting the word Trash back in place of your chosen term. You could also just replace the altered file with the backup you created earlier, using these two Terminal commands:

cd /System/Library/
CoreServices/Dock.app/\

Contents/Resources/English.lproj sudo cp InfoPlist.bak InfoPlist.strings Restart the Dock once more, and everything's back to normal.

InfoPlist.txt

| IrroshNome = "Trosh"; |
| DoshboordNome = "Doshboord";
| TroshRemoveFromDock = "Remove From Dock";
| NSHumanReodobleCopyright = "Copyright 2000-2003, Apple Computer, Inc.";
| AXApplicationDockItem = "application dock item";
| AXFolderDockItem = "folder dock item";
| AXFocumentDockItem = "document dock item";
| AXTroshDockItem = "trosh dock item";
| AXTroshDockItem = "trosh dock item";
| AXMINIMIZEDGEMINIMIZED

Name That Trash Don't like the boring name you see when you mouse over the Dock's Trash icon? Type whatever you like within the quotation marks to give Trash a new name.

English version of OS X, replace English.lproj with your chosen language.) Inside this folder, double-click on StickiesDocument.nib. One of the developer tools, Interface Builder (/Developer/Applications), should launch and open the file.

Interface Builder displays three windows when it opens. You're interested in the big empty one called Stickies. Click inside the white area in the window. The window will come to the foreground, and you should see a selection rectangle (with smaller rectangles at various points) around the white area. Once this section of the window is active, select Tools: Show Inspector. The NSTextView Inspector appears. Make sure the top pop-up menu is set to Attributes. Select the Show Scroller option. The Automatically Hide Scroller option appears. Select it as well. Press #-S to save the file, and then quit Interface Builder.

Relaunch Stickies, resize a note, and marvel at the automatically appearing and vanishing scroll bars.

Lists Unlimited

Whether you need to keep track of things to do or groceries to buy, lists are really useful. That's why it's so handy that Tiger's TextEdit now supports them in Rich Text Format (RTF) mode (Format: Make Rich Text).

One quick hidden way to start a list is to press option-tab when you're in any line of a Text-Edit document. This transforms that line, as well as any subsequent rows you add, into a hyphen-delimited list entry. As with lists started in the usual manner, tab and shift-tab change the amount of indent for a given row, and you can change the list type by control-clicking on the list and choosing Lists from the pop-up menu.

But here's the real trick: the option-tab keyboard shortcut can create lists in *any* OS X 10.4 application that uses the same text-input routines as TextEdit. That means you can use lists in programs that may not directly support them, including Flying Meat's \$25 VoodooPad (www.flyingmeat.com) and Apple's Stickies app (but not the Stickies widget).

Extrasmart iTunes Playlists

Want to organize your huge music collection into more-manageable chunks? Use iTunes' smart playlists to group music automatically by genre, artist, album, year recorded, or any of 20 or so other choices. Better yet, use some logic in a smart playlist to find a very specific set of tunes.

continues



Have a hint? Go to the Mac OS X Hints Web site (www.macosx hints.com) to share it. This column was based on tips from Matt Haffner, Ronald Cross, and anonymous contributors. Each month, the author of our favorite tip receives the Help Desk mug.

March 2006 MACWORLD 83

www.macworld.com

X OS X 101

Tips for Windows

You may think there's not much to say about Finder windows—you open a window, use it, and close it. But since you access Finder windows frequently, even a few tricks

for using them more effectively can shave time off

your workday.

Change Your View Mac OS X offers three different window view modes—list, icon, and column. The first two have existed on the Mac forever; OS X introduced the last. You control the view for a given folder through the Finder's View menus, or you can just use \mathbb{H}-1 for icon view, #-2 for list view, and #-3 for column view.

Which view you choose is partly a matter of personal preference and partly dependent on what you're looking at. For many people, myself included, column view offers the easiest means of navigating today's large hard drives—in one open window, you can get to any spot on your hard drive with a few clicks. If you have sufficient screen real estate, opening two column-view windows lets you move things easily between folders: anywhere on your Mac using drag and drop.

In certain folders, though, other views make more sense. You may wish to use icon view for a folder of images so you can see the thumbnails at a glance. If you download a lot of stuff from the Web, you might want to make a Downloads folder and set it to list view, sorted in newest-to-oldest order.

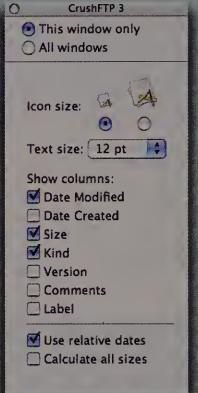
How do you do that? Simple. After setting the folder to list view, click on the Date Modified column header-it should default to newest-tooldest order. If it doesn't, just click on the Date Modified column header again, and the direction

will reverse. This works for all column headers in list view. Click once to sort on that attribute; click twice to reverse the sort order.

Add More Info What if you'd like to see additional columns in your Finder window, such as the Date Created or Comments fields? In the Finder, select View: Show View Options or press ૠ-J to open the View Options dialog box. This small window has the power to customize how your windows appear (see "Amazing Views"). To modify just one window's appearance, make sure This Window Only is selected. With the All Windows option selected, you'll be making your changes to all folders that use the view mode you're modifying.

As you switch between list, icon, and column views, the contents of the View Options window change—in icon view, for instance, you can choose a background color or picture for a folder.

Customize New Windows One of the questions new Mac users ask most often is how to set the default appearance for new windows—that is, how to control what you see when you press ૠ-N in the Finder. The answer is easy but far from obvious. Start by pressing \mathbb{H}-N to open a new window. Make the window look the way you want—change the view mode, or tweak colors and columns (depending on which view you've chosen, of course). You can also change the window's size and position. Here's the important part—do not click on any files or folders within the window; just close the window after you've set it to your liking. From now on, new Finder windows will open with your chosen settings.



Amazing Views Use the View Options dialog box to control the appearance of your windows. You can even add information here-for instance, a column that shows any label you've added.

Smart Playlist Match all of the following rules: is Heavy Metal is Θ 1990 to 1999 is in the range Limit to 25 songs selected by random Match only checked songs Live updating Cancel OK ---



Smart and Smarter You might think this smart playlist (top) would find all your 1990s Rock and Heavy Metal, but you'd be thinking wrong. It will only find songs that meet all these conditions—each song must belong to both the Rock and Heavy Metal genres. Instead, use one smart playlist to find the Rock and Heavy Metal songs, and then use it as a condition of another smart playlist that selects only songs created in the 1990s (bottom).

Select File: New Smart Playlist. Click on the Match pop-up menu at the top of the dialog box. You'll see two options here, All and Any. Choose All to create an AND search—for example, a smart playlist that includes tunes marked as both reggae and ska tracks. Choose Any to create an OR search—for example, a smart playlist that contains tunes marked blues *or* jazz.

But what if you want something more complex—for instance, if you want a playlist of all your hard rock music, grouped by the decade it was recorded in? You classify your hard stuff into two genres—Rock for the hard-yet-still-civil stuff, and Heavy Metal for the headbanging ultraloud guitar-slamming good stuff.

If you try to use smart playlists to group the tracks, you'll reach the limits of iTunes' logic. You can't combine AND and OR logic in a smart playlist. So there's no apparent way to create a smart playlist including songs that are in either Rock or Heavy Metal and were recorded between 1990 and 1999.

So just how can you create an extrasmart smart playlist? The answer is to make two smart playlists and make one a condition of the other. In this example, the first playlist would find Rock or Heavy Metal tunes. Set the Match pop-up menu to Any and then create two rules: Genre Is Rock and Genre Is Heavy Metal. (Click on the plus sign [+] to add rules to a smart playlist.) Click on OK when you're done and give the playlist a name—say, Hard Rock. For the second playlist, set the Match pop-up menu to All and give it two rules: Playlist Is Hard Rock and Year Is In The Range 1990 To 1999 (see "Smart and Smarter").

You can create very complex playlists using this technique. Go to macworld.com/1034 for a sample one.

Senior Editor ROB GRIFFITHS is the author of Mac OS X Power Hound, Panther Edition (O'Reilly, 2004).

Macworld DIGITAL PHOTOGRAPHY SUPERGUIDE

ON SALE NOW!

Macworld DIGITAL PHOTOGRAPHY SUPERGUIDE



\$12.95

Exclusive Macworld e-book AVAILABLE ONLINE ONLY

Get these essential tips

- Digital Camera Buying Advice
- Capturing Great Shots
- Photo Editing
- Perfect Printing
- Photo Library Organization
- Back-up Solutions

With more than 100 pages of expert advice, Macworld's e-book will guide you through every step of the photography process.

ORDER NOW!

ONLINE

www.macworld.com/0976

FOR ONLY

\$12.95

(use the URL above for the special \$9.95 Macworld reader discount!)

HELP DESK

Mac 911

Solutions to Your Most Vexing Mac Problems

Delete Incorrect Mail Addresses

I've entered some incorrect addresses when addressing new e-mail messages in Apple's Mail. Now when I create a new message and enter the first couple of letters of an address, these unwanted addresses appear. Since they haven't been entered on a card in Address Book, I can't find them to delete them. How can I rid myself of these bad e-mail addresses?

Helen Pressel

When you create an e-mail message and type the address in Mail, the program puts the address—whether right or wrong—in its cache. To remove cached addresses in the version of Mail that shipped with OS X 10.2.8, select Window: Address History, select the incorrect address in the resulting Address History window, and click on Remove From History.

In Tiger's version of Mail, go to Window: Previous Recipient and do the same. The command's name is different, but it works in a similar way. In the Panther and Tiger versions of Mail, you can remove these addresses by allowing Mail to automatically complete the incorrect entry, control-clicking on the address, and then selecting Remove Address from the contextual menu (see "Boot Bad Addresses").

Raise the Dead Drive

I installed the Tiger (OS X 10.4.3) update, and now my Power Mac G5 can mount DVD movies but refuses to play them. What's wrong?

Via the Internet

If you've been using your Mac for longer than the life span of a moderately hearty butterfly, you've heard that after installing an OS upgrade—say from OS X

New Message Attach Address Fonts Save As Draft Colors Biffy Jones To: biffy@example.com Cc: **Edit Address** Remove Address ect: Copy Address unt: Christopher Bre Open in Address Book Create Smart Mailbox Spotlight: "Biffy Jones"

10.4.1 to OS X 10.4.2—you should immediately dash to Apple's Disk Utility (/Applications/Utilities), select your startup drive from the list of drives at the left of the Disk Utility window, and click on Repair Permissions to put any errant file permissions back in line. I've found doing so to be an absolute necessity for this particular update.

After I installed the update on my brand-new 20-inch iMac G5, the SuperDrive refused to read a perfectly legitimate software CD. Spin enthusiastically, it would, but mount, it would not. When I repaired the Mac's permissions, a slew of out-of-whack ones appeared in Disk Utility's main window. With these fixed, the drive worked as it was supposed to.

I'm aware that a new update may be out by the time you read this. Regardless, this advice applies from now until Apple says there's a better way. Repair permissions after every update.

Save Your Receipts!

I can't use Apple's Disk Utility to repair permissions on my 500MHz Titanium PowerBook G4. When I try, I see an error that reads "No valid packages." What's going on?

Ayrton Camargo

You can't repair permissions if you've moved the BaseSystem.pkg file in your Mac's /Library/Receipts folder. Regrettably, there's a notion floating around the Web that it's perfectly okay to toss the contents of this Receipts folder to free up space. But if you misplace this particular file, which was created when you installed OS X, you encounter this error.

Each package, or .pkg file, in your Receipts folder contains a bill of materials, or .bom file, that keeps track of permissions for the items installed from that package. Disk Utility uses that information to compare the permissions of files on your hard drive with the permissions listed in these .bom files.

If a receipt (and its accompanying .bom file) is missing, Disk Utility can't verify the permissions at all. In most cases, this isn't a huge problem. Disk Utility goes on about its business because it's unaware of the missing receipt. But it becomes a big problem if the BaseSystem.pkg file is missing, because Disk Utility relies on this particular package to do its job.

The solution to the problem is to put the BaseSystem.pkg file back in the Receipts folder. If you've

Boot Bad Addresses

Tired of Mail using incorrect addresses when it automatically completes them for you? Remove bum addresses by using a quick contextual-menu command.

Are you a laptop person or a desktop person?



Join the Macworld Reader Panel to enter our "Mac Choice Sweepstakes" where the winner gets to choose between a G5 Power Mac or a 15" PowerBook†. As a panel member you will be invited to participate in online research surveys and discussions. And panelists get a chance to win every time they participate in online surveys. Participation in the Mac Choice Sweepstakes is open to all eligible Macworld readers. Whether you're a beginner, expert, switcher, notebook or desktop user—join the Macworld Panel and let your voice be heard. We're listening!

To participate, please visit: www.macworld.com/surveys/joinpanel/

NO PURCHASE NECESSARY TO ENTER OR WIN. Void where prohibited by law. Drawing is open to all eligible Macworld readers who complete the survey. We must hear from you by 1/31/2006 to be included in the drawing. Winner will be notified by email approximately one week after survey close, on or about 2/7/2006. For Official Rules, please visit www.macworld.com/surveys/panel/rules.cfm. All information provided will be kept completely confidential and only used in combination with other respondents. Personal information will not be sold, shared or used in any way outside the scope of this research. For more on privacy, visit www.macworld.com/surveys/panel/privacy.htm.

Macworld

學 TIP OF THE MONTH

Shrink Slide Shows for TV

You can make beautiful slide shows in iPhoto. But when you try to burn them to DVD to watch on a TV, you'll find that 10 to 20 percent of the image area disappears. Here's how to create a slide show that fits, with Apple's iLife '05 (\$79; macworld.com/1006) and QuickTime Pro (\$30; macworld.com/1007).

Start by creating a slide show in iPhoto and choosing Share: Send To iDVD. Quit iDVD. Open the slide show (it's in /your user folder/Movies) in QuickTime Player Pro. Choose Window: Show Movie Properties, and make a note of the slide show's length.

Using an image editor, create a black image and save it as a 640-by-480 JPEG file. Launch iMovie, create a new project, and drag the black JPEG image into the Clips area. Drag the black image into iMovie's timeline and then double-click on it. In the Duration field of the Clip Info window that appears, enter the duration of your slide show and click on Set. Choose File: Share and, in the resulting pane, click on the QuickTime tab. Choose Full Quality from the Compress Movie For pop-up menu, and click on Share.

Double-click on the black movie file to open it in QuickTime Player. Locate your slide-show movie, and open it in QuickTime Player as well. Go to mac world.com/1008 and download the QuickTime Player scripts. Install the script collection, using the instructions with the file. Return to QuickTime Player and choose AppleScript: QuickTime Player Scripts: Edit: Merge Movie 1 Into Movie 2. This merges the contents of both movies into one movie.

Choose Window: Show Movie Properties. You'll see two video tracks. Select Video Track 1 (which should be in the DV/DVCPRO - NTSC format), deselect the Preserve Aspect Ratio option, and enter 640 and 480 into the Scaled Size fields. Enable the High Quality option.

Now select Video Track 2 (in MPEG-4 Video format). Enter 544 and 408 in the Scaled Size fields and 48 and 36 in the Offset fields. Doing this centers the images in the black background field. Enable the High Quality option here, too. Save the file and import it into iDVD. The entire picture will now fit on the TV screen (see "Shrink to Fit"). Carl Sunshine





Shrink to Fit When you display iPhoto slide shows on a TV, some of the picture gets cropped out (left). But you can make them fit by scaling the size of your slide show and placing it against a black background (right). The lines indicate what would be visible on the tube.

intentionally removed and deleted it, either pull a copy of the file from a backup you've created or find a Mac buddy who's running your PowerBook's version of Mac OS, grab a copy of this file from his or her computer, and plunk it into the Receipts folder on your Mac.

If you're buddyless, you can put things right by performing an Archive & Install installation of Mac OS.

Resurrect Sherlock

My copy of Sherlock appears to be dead, and I don't know how to get it up and running again. It worked well under previous versions of OS X but broke when I installed OS X 10.4. Louise Wazbinski

This behavior could be seen as a fairly broad hint that Sherlock's days are numbered, because most of its capabilities are duplicated by Tiger's Dashboard widgets. (Hold those angry cards and letters, please-I'm not saying that widgets are better than Sherlock; I'm saying only that the writing is on the wall.)

But that doesn't mean I can't help you. You simply need to clear Sherlock's virtual throat and allow it to start fresh. Dig through your user folder and toss the following folders and files into the Trash:

- > /your user folder/Library/Caches/Sherlock/
- > /your user folder/Library/Preferences/ Sherlock/
- > /your user folder/Library/Preferences/com .apple.Sherlock.plist

Dot Not

I used Panic's news reader, Unison, to download a folder full of files. I can't find that folder anywhere on my hard drive, and Spotlight can't find any of the files. Yet when I click on the Show File icon in Unison's Downloads window, the file appears in the group folder that contains it. Where is everything? Bill Phillips

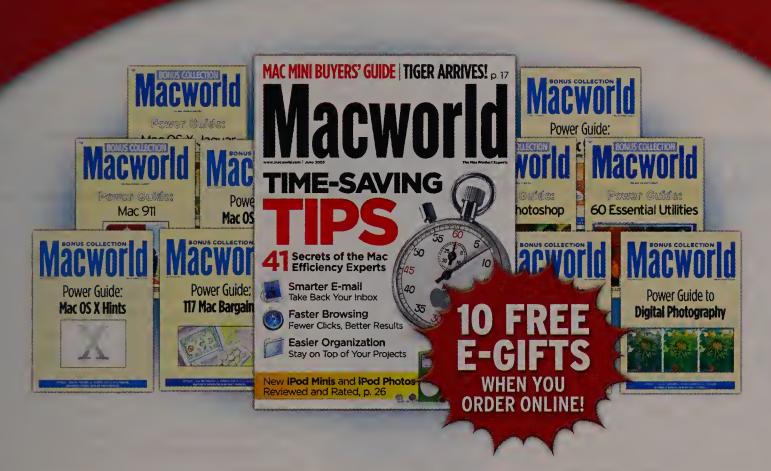
This quirk from an earlier version of Unison (mac world.com/1005) has now been addressed. If you used continues



Send your tips to mac911@ macworld.com. If we publish yours, you'll receive this dandy mug. All published submissions become the sole property of Macworld.

SPECIAL OFFER

Subscribe to Macworld and get 10 FREE INSTANT E-GIFTS AND BONUS CD-ROM!



Don't miss out on this special offer! We'll rush you your first issue, and you'll receive 10 FREE downloadable Macworld Power Guides instantly. No need to pay now! We'll send you an invoice for only \$19.97, that's 76% off the cover price. Subscribe today and you'll get a Bonus CD-ROM with your paid order.

Only Macworld combines objective product testing with over 20 years of market experience to give readers the perspective, advice, and inspiration to get the most out of their Mac. Each issue is loaded with authoritative product reviews, expert hints and tips, in-depth feature articles and more!

Simply order online and receive your 10 FREE E-GIFTS INSTANTLY!

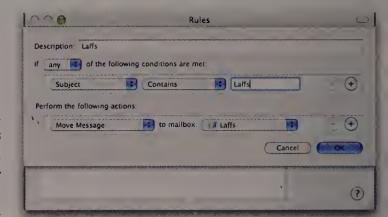
www.macworld.com/subscribe OR call 1-800-288-6848

Mention promotion code H63SMCWAP

a utility such as Marcel Bresink's free TinkerTool (macworld.com/0296) to make your Mac's invisible files visible, you'd find your folder right where it should be—inside the group folder (alt.binaries.sounds, for example) where Unison stores its downloads.

The problem is that the file or folder's name probably begins with a period (.). You see, the Finder won't allow you to create a file or folder with a name beginning with a period, but it's possible to download one. Unfortunately, that's the naming convention for special items reserved for the system's use. OS X makes all such items invisible so you can't mess with them by accident.

The trick to making the folder visible is changing its name, but the Finder may prevent you from doing so in the normal way—highlighting the name in the Finder and removing the period. Instead, select the



Get the Joke Don't let yourself be overwhelmed by e-mails that you want to save but that have unhelpfully generic subject lines. With the aid of a nonsense word and a well-constructed Mail rule, you'll have the last laugh.

folder's name, press \(\mathbb{H}\)-I to bring up the Info window, and rename the folder by typing in the Info window's Name & Extension text field.

Change the Subject

A friend sends me tons of funny e-mails, but they all have the subject heading "Humor." I save the ones I like in a folder, but I can't tell them apart. If I could change the subject heading, reviewing the items in this folder would be a lot easier.

Jim Ross

The most effective solution would be to contact the sender and ask him or her to create a subject heading that reflects the contents of each message. But I imagine you would have contacted Dear Abby instead of Mac 911 if you wanted the social solution to your problem. To avoid what could be an awkward e-mail exchange, try this instead.

Launch Mail, hold down the # and option keys, and click on the transparent button in the upper right corner of the window to produce the sheet that lets you customize the toolbar. Drag the Redirect icon to the toolbar.

When you receive a joke that you like, click on the Redirect button. In the message window that appears, enter your name in the To field and type in a subject heading that more accurately describes the yuckfest within. Send the message to yourself.

To more easily file the message when you receive it, add a made-up word to the subject that will help you filter the message with a rule. For example, you could use the fake word Laff in the subject line—"Laff: Chicken Crosses Road." Click on the plus-sign (+) button at the bottom of Mail's Mailboxes pane and create a new mailbox named Laffs. Now choose Mail: Preferences, click on the Rules tab, click on Add Rule, and create the following rule: If Subject Contains Laff, Move Message To Mailbox Laffs (see "Get the Joke").

If you'd rather not e-mail yourself, go ahead and click on Redirect, enter any e-mail address you like, change the subject, and then click on Save As Draft. Mail will move the message to its Drafts folder; then you can move it to another folder.

Senior Editor CHRISTOPHER BREEN is the author of Secrets of the iPod, fifth edition, and The iPod and iTunes Pocket Guide (2005, Peachpit Press).



much as \$500.

TOOLS OF THE TRADE

Rigging a Safety Net

Cool as your Mac may be, without the data you so carefully create and manipulate on it, it's little more than a pretty box. To help keep your data intact, I'd like to recommend a few items that any good office (home, mobile, or otherwise) should have.

> Uninterruptible Power Supply (UPS) A UPS can help protect your data by standing in the way of power fluctuations and providing battery backup should power fail completely. You can buy a UPS from companies such as APC (www.apcc.com), Belkin (www.belkin.com), and Tripp-Lite (www.tripplite.com). Most cost between \$70 and \$150, although you can find them for as little as \$35 or as

When seeking a UPS, look at its load capacity, measured in volt amps. An iMac or a laptop will get along fine with a 350VA UPS. If you have a Power Mac G5, look for a 1,000VA

model. Also see that it supports Automatic Voltage Regulation (AVR)—a feature you won't find on the less expensive models. This helps ensure that the UPS reacts quickly to changes in power, providing your Mac with a steady stream of the right power.

> Hard Drive and Backup Software You've heard the "some day your drive will die, and without a backup, you're meat" lecture time and again, so I won't repeat it here. But if you really want to protect your data, get an external hard drive and backup software that

> can copy your data on a schedule. (See our most recent review of external FireWire drives at macworld.com/0923.) You can find 300GB FireWire hard drives for less than \$250. And you needn't spend a fortune on backup software. Some hard drives ship with EMC Dantz's Retrospect Express (www.dantz.com). Shirt Pocket's \$20 SuperDuper (www.shirt-pocket.com) does a great job for little money. And if you're a

.Mac subscriber, you get Apple's Backup 3 for free.

> USB Key Drive If you can't back up on a schedule, drop a couple of dozen dollars to purchase a USB key drive from a company such as SanDisk (www.sandisk.com). Plug it in whenever you're working on a hot project and make copies of your five most important documents. If you carry the drive on your keychain or around your neck, you'll have the documents whenever you need them. This is also a good way to protect files you're changing quickly. A backup that fires off once a day might not be enough to save the right version.

ADVERTISERS INDEX

Interact with the companies whose products and services are advertised in Macworld.

Apversible Acception Apversible Apversible Apversible Apversible Acception			$\overline{}$			
Academic Superstore mw. academicsuperstore.com 109 Kerio Technology kerio.com 27 Acade Made acmemade.com 103 Mac of all Trades macofalltrades.com 107 Albify astort.com 46-47 Mac-Pro Systems mac-pro.com 108 Americasprinter.com americasprinter.com 105 Mac-Pro Systems mac-pro.com 108 Anthro ambro.com/mac 13 MacConnection macconnection.com/mw 92-93 Apple Computer apple.com C2-1 MacMall 800-321-7532 94-95 Audio Outritters ezgear-du.com 73 Mark/Space markspace.com 101 Biomorph biomorph.com 104 Maxell maxell.com 23 Booq. LLC boogages.com 103 Maxel maxell.com 23 Bumbakpaks bumbakpaks.com 101 Memory Solutions memorysolutions.com 107 Chronos sohoseries.com 103 Micromat micromat.com 21 Contour Design	ADVERTISER	INTERACT	PAGE NO.	ADVERTISER	INTERACT	PAGE:NO.
Acme Made acmemade.com 103 ADIM9 adimconference.com 72 Mac of all Trades macofalltrades.com 107 Alsoft alsoft.com 46-47 Mac of all Trades macopro.com 108 Americasprinter.com americasprinter.com 105 Mac Solutions macopro.com 111 Anthro anthro.com/mac 13 MacConnection macconnection.com/mw 92-93 Audio Outfitters exgear-4u.com 73 Mark/Space markspace.com 104 Biomorph biomorph.com 104 Maxell macrace.com 101 Biomorph biomorph.com 104 Maxell maxell.com 23 Boog, LC boodpags.com 103 Maxtor markell.com 23 Biomorph biomorph.com 10 Memory Solutions macracl.com 101 Chronos sobseries.com 10 Memory Solutions memory Solutions.com 111 Contour Design contour Case.com 103 Contour Group <th< td=""><td>4 Over Inc.</td><td>4over.com</td><td>106</td><td>Journey Educational</td><td>journeyed.com</td><td>108</td></th<>	4 Over Inc.	4over.com	106	Journey Educational	journeyed.com	108
Abinst	Academic Superstore	mw.academicsuperstore	e.com 109	Kerio Technology	kerio.com	27
Alsoft	Acme Made	acmemade.com	103			
AmericasPrinter.com americasprinter.com 105 Mac Solutions macsolutions.com 111 Anthro anthro.com/mac 13 MacConnection macconnection.com/mw 92-93 Audio Outfitters ezgear4u.com 73 Mark/Space markspace.com 104 Biomorph biomorph.com 104 Maxelt maxell.com 23 Boog, LLC boogbags.com 103 Maxtor maxell.com 23 Bumbakpaks bumbakpaks.com 101 Megamacs megamacs.com 111 Chronos sohoseries.com 10 Memory Solutions merorysolutions.com 107 Contour Design contourcase.com 103 Micromat micromat.com 21 Contour Design contourcase.com 107 Omni Group omnigroup.com 8 Creative Juices bigposters.com 107 Outer World Computing macsales.com 23,49-69 Other World Computing adatavideo.us 100 Outspring outspring.com 12 <td< td=""><td>ADIM9</td><td>adimconference.com</td><td>72</td><td>Mac of all Trades</td><td>macofalltrades.com</td><td>107</td></td<>	ADIM9	adimconference.com	72	Mac of all Trades	macofalltrades.com	107
Anthro anthro.com/mac 13 apple.com MacConnection macconnection.com/mw 92-93 Apple Computer apple.com C2-1 macMall 800-321-7532 94-95 Audio Outfitters ezgear4u.com 73 mark/Space markspace.com 101 Blomorph biomorph.com 104 maxware markspace.com 101 Blomorph biomorph.com 103 maxware maxell.com 23 Booq, LLC boodpags.com 103 maxware maxell.com 23 Bumbakpaks bumbakpaks.com 101 maxware maxell.com 23 Chronos sohoseries.com 10 maxware maxell.com 23 Chronos sohoseries.com 10 maxware maxell.com 23 Chronos sohoseries.com 10 maxware maxell.com 21 Chronos sohoseries.com 103 maxell.com 21 Chronos sohoseries.com 103 maxell.com 20 Chronos sohoseries.com 107 Omni Group omnigroup.com <td< td=""><td>Alsoft</td><td>alsoft.com</td><td>46-47</td><td>Mac-Pro Systems</td><td>mac-pro.com</td><td>108</td></td<>	Alsoft	alsoft.com	46-47	Mac-Pro Systems	mac-pro.com	108
Apple Computer apple.com C2-1 MacMall 800-321-7532 94-95 Audio Outfitters ezgear4u.com 73 Mark/Space markspace.com 104 Blomorph biomorph.com 104 Marware markspace.com 101 Booq, LC boodpags.com 103 Maxtor maxtor.com 111 Bumbakpaks bumbakpaks.com 101 Maxell maxell.com 23 Bumbakpaks bumbakpaks.com 101 Maxor maxtor.com 111 Chronos sohoseries.com 10 Micromat megamacs. megamacs.com 107 Coast to Coast Memory 18004memory.com 108 Micromat micromat.com 107 Contour Design contourcase.com 103 Other World Computing mcromat.com 21 Cast Video datavideo.us 100 Outspring outspring.com 12 Data Video datavideo.us 100 PFU pfu.fujitsu.com/en/hkeyboard/ 101 10.0/Netalog diodirect.com 26, 31				Mac Solutions	macsolutions.com	111
Addio Outfitters ezgear4u.com 73 Mark/Space markspace.com 104 Blomorph biomorph.com 104 Maxware markspace.com 101 Blomorph biomorph.com 104 Maxware markspace.com 101 Blomorph biomorph.com 103 Maxtor maxvare.com 111 Blombakpaks bumbakpaks.com 101 Megamacs megamacs.com 111 Chronos sohoseries.com 10 Megamacs memorysolutions.com 107 Coast to Coast Memory 1800-4memory.com 108 Creative Julices bigposters.com 107 Omni Group omnigroup.com 8 Other World Computing macsales.com (23,34, 96-99) Data Memory Systems datamem.com 109 Outspring outspring.com 12 Data Video datavideo.us 100 Oisc Makers discmakers.com/mw 107 Dr. Bott drivesavers.com 105 Dr. Bott drivesavers.com 105 Dr. Bott drivesavers.com 105 Earthlink earthlink.net/voice 16 Rain Design raindesigninc.com 109 ESS Data Recovery Labs savemyfiles.com 105 Raticow fatcow.com/mac 107 Retractable Banners tradeshow-stuff.com 108 Full Tilt Poker fulltilipoker.net 41 Sharpdots sharpdots.com 108 Full Tilt Poker geekcruises.com 33, 111 Geek Cruise geekcruises.com 33, 111 Geek Cruise geekcruises.com 33, 111 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 Hewlett-Packard hpshopping.com C4 Hiddreth Enterprises insidersoftware.com 37 Insider Software insidersoftw				MacConnection	macconnection.com/m	w 92-93
Biomorph biomorph.com 104 Marware marware.com 101 Marwale.com 101 Marwale.com 101 Marwale.com 101 Maxell maxell.com 23 maxell.com 23 Maxtor maxtor.com 111 Megamacs megamacs.com 111 Megamacs megamacs.com 111 Megamacs megamacs.com 111 Megamacs megamacs.com 107 Memory Solutions memorysolutions.com 107 Coast to Coast Memory 1800-4memory.com 108 Micromat micromat.com 21 Octor Design contourcase.com 103 Creative Julces bigposters.com 107 Omni Group omnigroup.com 8 Other World Computing macsales.com (3,34,96-99 Other World Computing macsales.com (3,34,96-99 Other World Computing macsales.com (3,34,96-99 Other World Computing macsales.com 12 Other World Computing outspring.com 10		• •		MacMall	800-321-7532	94-95
Blomorph Blomorph Diomorph Dodges.com 103	Audio Outfitters	ezgear4u.com	/3	Mark/Space	markspace.com	
Booq, LLC booqbags.com 103 Maxett maxell.com 111 Bumbakpaks bumbakpaks.com 101 Memory Solutions megamacs.com 111 Chronos sohoseries.com 10 Memory Solutions memorysolutions.com 107 Coast to Coast Memory 18004memory.com 108 Micromat micromat.com 21 Contour Design contourcase.com 107 Omni Group omnigroup.com 8 Creative Juices bigposters.com 107 Other World Computing macsales.com C3,34, 96-99 Data Memory Systems datamem.com 109 Outspring outspring.com 12 Data Video datavideo.us 100 Disc Makers discmakers.com/nw 107 PFU pfu.fujitsu.com/en/hhkeyboard/ 101 DLO/Netalog diodirect.com 26, 31 PowerMax powermax.com 110 Dr. Bott drbott.com/local 32 Prosoft Engineering prosofteng.com 101 Drive Savers drivesavers.com 105 Raddech raddech.com 101 Earthlink earthlink.net/voice 16 Rain Design raindesigninc.com 102 EDG Graphics edgmiami.com 107 Ramjet ramjet.com 107 ESS Data Recovery Labs savemyfiles.com 105 Retractable Banners tradeshow-stuff.com 107 FatCow fatcow.com/mac 107 SeafoodByNet seafoodbynet.com 108 Full Tilt Poker fulltiltpoker.net 41 Sharpdots sharpdots.com 108 Full Tilt Poker fulltiltpoker.net 41 Sharpdots sharpdots.com 108 Full Tilt Poker geekcruises.com 33, 111 Software MacKlev macklev.com 35, 39 Geek Cruise geekcruises.com 33, 111 Software MacKlev macklev.com 35, 39 Granite Digital granitedigital.com 100 Technestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Xtreme Mac Xtrememac.com 38 Intego intego.com 25	Riomorph	hiomorph com	104			
Bumbakpaks bumbakpaks.com 101 Maxtor maxtor.com 111 Megamacs megamacs.com 111 Megamacs megamacs.com 111 Megamacs megamacs.com 110 Memory Solutions memory Solutions.com 107 Memory Solutions memory Solutions.com 107 Micromat micromat.com 21 Memory Design contourcase.com 103 Omni Group omnigroup.com 8 Other World Computing macsales.com C3,34, 96-99 Outspring outspring.com 112 Outspring Outspring.com 112 Outspring Outspring.com 112 Outspring Outspring.com 112 Outspring Outspring.com 110 Outspring Outspring.com 12 Outspring Outspring.com 12 Outspring Outspring.com 12 Outspring.com 12 Outspring Outsp		·		Maxell		
Chronos sohoseries.com 10 Megamacs megamacs.com 111 Memory Solutions memorysolutions.com 107 Coast to Coast Memory 18004memory.com 108 Micromat micromat.com 21 Contour Design contour Coast to Coast Memory Solutions memorysolutions.com 21 Creative Juices bigposters.com 107 Omi Group omnigroup.com 8 Other World Computing macsales.com C3,34, 96-99 Other World Computing macsales.com C3,34, 96-99 Outspring outspring.com 12 Outspring Outspring.com 12 Outspring Outspring.com 12 Outspring Outspring.com 110 Ou		. •		Maxtor	maxtor.com	
Const to Coast Memory 18004memory.com 108 contour Design Creative Juices bigposters.com 107		_				
Contour Design contourcase.com 103 Creative Juices bigposters.com 107 Data Memory Systems datamem.com 109 Data Memory Systems discmakers.com/mw 107 Disc Makers discmakers.com/mw 107 DI.O/Netalog dlodirect.com 26, 31 Drive Savers drivesavers.com 105 Earthlink earthlink.net/voice 16 Earthlink earthlink.net/voice 16 Earth Recovery Labs savemyfiles.com 105 EACOW factow.com/mac 107 EACOW factow.com/mac 107 EACOW factow.com/mac 107 EACOW factow.com/mac 107 EQUITITIE Poker fulltiltpoker.net 41 Equity filts Discom 108 Earth Dista geekcruises.com 33, 111 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 42-43 Granite Digital granitedigital.com 107 EINGER Dista Communication 107 EINGER Dista Communication 107 EINGER Dista Communication 107 EINGER DISTA COMMUNICATION 108 EINCH WORLD TO COMMUNICATION 108 EINCH WORLD TO COMMUNICATION 108 E	Chronos	sohoseries.com	10		•	
Creative Julies bigposters.com 107 Other World Computing macsales.com C3,34, 96-99 Data Memory Systems datamem.com 109 Outspring outspring.com 12 Data Video datavideo.us 100 Disc Makers discmakers.com/mw 107 PFU pfu.fujitsu.com/en/hhkeyboard/ 101 Dr. Bott drbott.com/local 32 Prosoft Engineering prosofteng.com 101 Drive Savers drivesavers.com 105 Earthlink earthlink.net/voice 16 Rain Design raindesigninc.com 109 ESS Data Recovery Labs savemyfiles.com 105 Retractable Banners tradeshow-stuff.com 108 Full Tilt Poker fulltiltpoker.net 41 Sharpdots sharpdots.com 108 Fujitsu fcpa.fujitsu.com/9689 7 Shreve Systems shrevesystems.com 108 Fujitsu geekcruises.com 33, 111 Software MacKiev mackiev.com 35, 39 Grantte Digital granite-digital.com 100 Griffin Technology griffinte-chnology.com 4 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Hildreth Enterprises inskfarm.com 108 Inkfarm inkfarm.com 108 Inkfarm inkfarm.com 108 Inkfarm inkfarm.com 108 Intego intego.com 25 Insider Software insidersoftware.com 37 Intego intego.com 25 Intego Small Computing macsales.com 219 Other World Computing macsales.com C3,34, 96-99 Other World Computing macsales.com P12 Dottspring outspring.com PFU pfu.fujitsu.com/en/hhkeyboard/ 101 PFU pfu.fujitsu.com/en/hhkeyboard/ 101 Ractard PPU pfu.fujitsu.com/en/hhkeyboard/ 101 Ractard PPU pfu.fujitsu.com/en/hhkeyboard/ 101 Radtard PowerMax powermax.com 108 Seafood Engineering prosofteng.com 108 Seafood PNet	Coast to Coast Memory	18004memory.com	108	Micromat	micromat.com	21
Data Memory Systems datamem.com 109 Outspring outspring.com 12 Data Video datavideo.us 100 Disc Makers discmakers.com/mw 107 Dr. Bott drivesavers.com 105 Earthlink earthlink.net/voice 16 EDG Graphics edgmiami.com 107 EBCOw fatcow.com/mac 107 FatCow fatcow.com/mac 107 Full Tilt Poker fulltiltpoker.net 41 Fujitsu fcpa.fujitsu.com/9689 7 Geek Cruise geekcruises.com 33, 111 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 107 Inkfarm inkfarm.com 108 Inkfarm inkfarm.com 108 Inkfarm inkfarm.com 108 Intego intego.com 17 Insider Software insidersoftware.com 37 Insider Software insidersoftware.com 37 Intego intego.com 108 Intego Cruise general datavideo.us 109 Outspring outspring.com 120 Outspring outspring.com 121 Outspring outspring.com 24, 34 96-99 Outspring outspring.com 110 Duty Saying outspring.com 110 PFU pfu.fujitsu.com/en/hhkeyboard/ 101 PFU pfu.fujitsu.com/en/hhkeyboard/ 101 PFU pfu.fujitsu.com/en/hhkeyboard/ 101 PFU pfu.fujitsu.com/en/hhkeyboard/ 101 Radicen powermax.com 102 Radicen powermax.com 102 Radicen radech.com 103 Radicen radech.com 103 SeafoodByNet seafoodbynet.com 108 Sharpdots seafoodbynet.com 109 SeafoodByNet seafoodbynet.com 109 SeafoodByNet seafoodbynet.com 109 SeafoodByNet seafoodbynet.com 109 SeafoodByNet seafoodbynet.com 109 Sharpdots s	Contour Design	contourcase.com	103			
Data Memory Systemsdatamem.com109 data VideoOutspringoutspring.com12Data Videodatavideo.us100PFUpfu.fujitsu.com/en/hhkeyboard/ 101DLO / Netalogdlodirect.com26, 31PowerMaxpowermax.com110Dr. Bottdrbott.com/local32Prosoft Engineeringprosofteng.com101Drive Saversdrivesavers.com105Radtechradtech.com101Earthlinkearthlink.net/voice16Rain Designraindesigninc.com102EDG Graphicsedgmiami.com107Ramjetramjet.com109ESS Data Recovery Labssavemyfiles.com105Retractable Bannerstradeshow-stuff.com107FatCowfatcow.com/mac107SeafoodByNetseafoodbynet.com108Full Tilt Pokerfulltiltpoker.net41Sharpdotssharpdots.com108Fujitsufcpa.fujitsu.com/96897Shreve Systemsshrevesystems.com108Geek Cruisegeekcruises.com33, 111Software MacKievmackiev.com35, 39Granite Digitalgranitedigital.com100Software MacKievmackiev.com104Hewlett-Packardhpshopping.comC4Wacomtabletphotofun.com17Hidreth Enterprisesmacprices.com107Wiebe Techwiebetech.com100Inkfarminkfarm.com108Xeroxxerox.com2-3Insider Softwareinsidersoftware.com37Xtreme Mac <td>Creative Juices</td> <td>bigposters.com</td> <td>107</td> <td>Omni Group</td> <td>omnigroup.com</td> <td>8</td>	Creative Juices	bigposters.com	107	Omni Group	omnigroup.com	8
Data Video datavideo.us 100 Disc Makers discmakers.com/mw 107 PFU pfu.fujitsu.com/en/hhkeyboard/ 101 DLO/Netalog dlodirect.com 26, 31 PowerMax powermax.com 110 Dr. Bott drbott.com/local 32 Prosoft Engineering prosofteng.com 101 Drive Savers drivesavers.com 105 Earthlink earthlink.net/voice 16 Rain Design raindesigninc.com 102 EDG Graphics edgmiami.com 107 Ramjet ramjet.com 109 ESS Data Recovery Labs savemyfiles.com 105 Retractable Banners tradeshow-stuff.com 107 FatCow fatcow.com/mac 107 SeafoodByNet seafoodbynet.com 108 Full Titl Poker fulltiltpoker.net 41 Sharpdots sharpdots.com 108 Full Titl Poker fulltiltpoker.net 41 Sharpdots sharpdots.com 108 Full Titl Poker geekcruises.com 33, 111 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Hildreth Enterprises insidersoftware.com 37 Insider Software insidersoftware.com 37 Intego intego.com 25				Other World Computing	macsales.com C	3,34, 96-99
Disc Makers discmakers.com/mw 107 PFU pfu.fujitsu.com/en/hhkeyboard/ 101 DLO/Netalog dlodirect.com 26, 31 PowerMax powermax.com 110 Dr. Bott drbott.com/local 32 Prosoft Engineering prosofteng.com 101 Drive Savers drivesavers.com 105 Radtech radtech.com 101 Earthlink earthlink.net/voice 16 Rain Design raindesigninc.com 102 EDG Graphics edgmlami.com 107 Ramjet ramjet.com 109 ESS Data Recovery Labs savemyfiles.com 105 Retractable Banners tradeshow-stuff.com 107 FatCow fatcow.com/mac 107 SeafoodByNet seafoodbynet.com 108 Full Tilt Poker fulltitpoker.net 41 Sharpdots sharpdots.com 108 Fujitsu fcpa.fujitsu.com/9689 7 Shreve Systems shrevesystems.com 108 Small Dog smalldog.com 42-43 Geek Cruise geekcruises.com 33, 111 Software MacKiev mackiev.com 35, 39 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Xtreme Mac xtrememac.com 38 Intego intego.com 125	Data Memory Systems	datamem.com	109	Outspring	outspring.com	12
DLO/Netalog dlodirect.com 26, 31 PowerMax powermax.com 110 Dr. Bott drbott.com/local 32 Prosoft Engineering prosofteng.com 101 Drive Savers drivesavers.com 105 Earthlink earthlink.net/voice 16 Rain Design raindesigninc.com 102 EDG Graphics edgmiami.com 107 Ramjet ramjet.com 109 ESS Data Recovery Labs savemyfiles.com 105 Retractable Banners tradeshow-stuff.com 107 FatCow fatcow.com/mac 107 SeafoodByNet seafoodbynet.com 108 Full Tilt Poker fulltitpoker.net 41 Sharpdots sharpdots.com 108 Fujitsu fcpa.fujitsu.com/9689 7 Shreve Systems shrevesystems.com 108 Geek Cruise geekcruises.com 33, 111 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Hildreth Enterprises macprices.com 108 Inkfarm inkfarm.com 108 Inkfarm insidersoftware.com 37 Intego intego.com 25	Data Video	datavideo.us	100			
Dr. Bott drbott.com/local 32 Prosoft Engineering prosofteng.com 101 Drive Savers drivesavers.com 105 Radtech radtech.com 101 Earthlink earthlink.net/voice 16 Rain Design raindesigninc.com 102 EDG Graphics edgmiami.com 107 Ramjet ramjet.com 109 ESS Data Recovery Labs savemyfiles.com 105 Retractable Banners tradeshow-stuff.com 107 FatCow fatcow.com/mac 107 SeafoodByNet seafoodbynet.com 108 Full Tilt Poker fulltiltpoker.net 41 Sharpdots sharpdots.com 108 Fujitsu fcpa.fujitsu.com/9689 7 Shreve Systems shrevesystems.com 108 Geek Cruise geekcruises.com 33, 111 Software MacKiev mackiev.com 35, 39 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Hildreth Enterprises macprices.com 108 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Intego intego.com 25	Disc Makers	discmakers.com/mw	107	PFU	pfu.fujitsu.com/en/hhkey	yboard/ 101
Drive Savers drivesavers.com 105 Radtech radtech.com 101 Earthlink earthlink.net/voice 16 Rain Design raindesigninc.com 102 EDG Graphics edgmiami.com 107 Ramjet ramjet.com 109 ESS Data Recovery Labs savemyfiles.com 105 Retractable Banners tradeshow-stuff.com 107 FatCow fatcow.com/mac 107 SeafoodByNet seafoodbynet.com 108 Full Tilt Poker fulltiltpoker.net 41 Sharpdots sharpdots.com 108 Fujitsu fcpa.fujitsu.com/9689 7 Shreve Systems shrevesystems.com 108 Geek Cruise geekcruises.com 33, 111 Software MacKiev mackiev.com 35, 39 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Hildreth Enterprises macprices.com 107 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Xtreme Mac xtrememac.com 38 Intego intego.com 25	DLO/Netalog	dlodirect.com	26, 31	PowerMax	powermax.com	110
Radtech radtech.com 101	Dr. Bott	drbott.com/local	32	Prosoft Engineering	prosofteng.com	101
Earthlink earthlink.net/voice 16 Rain Design raindesigninc.com 102 EDG Graphics edgmiami.com 107 Ramjet ramjet.com 109 ESS Data Recovery Labs savemyfiles.com 105 Retractable Banners tradeshow-stuff.com 107 FatCow fatcow.com/mac 107 SeafoodByNet seafoodbynet.com 108 Full Tilt Poker fulltiltpoker.net 41 Sharpdots sharpdots.com 108 Fujitsu fcpa.fujitsu.com/9689 7 Shreve Systems shrevesystems.com 108 Geek Cruise geekcruises.com 33, 111 Software MacKiev mackiev.com 35, 39 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Hildreth Enterprises macprices.com 107 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Xtreme Mac xtrememac.com 38 Intego intego.com 25	Drive Savers	drivesavers.com	105	Padtoch	radtech com	101
EDG Graphics edgmiami.com 107 Ramjet ramjet.com 109 ESS Data Recovery Labs savemyfiles.com 105 Retractable Banners tradeshow-stuff.com 107 FatCow fatcow.com/mac 107 SeafoodByNet seafoodbynet.com 108 Full Tilt Poker fulltiltpoker.net 41 Sharpdots sharpdots.com 108 Fujitsu fcpa.fujitsu.com/9689 7 Shreve Systems shrevesystems.com 108 Geek Cruise geekcruises.com 33, 111 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Hildreth Enterprises macprices.com 107 Inkfarm inkfarm.com 108 Insider Software insidersoftware.com 37 Intego intego.com 25 Total Ramjet ramjet.com 109 Retractable Banners tradeshow-stuff.com 108 SeafoodByNet seafoodbynet.com 108 Sharpdots sharpdots.com 108 Small Dog smalldog.com 42-43 mackiev.com 35, 39 TechRestore techrestore.com 104 Wacom tabletphotofun.com 17 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Intego 108 Xerox xerox.com 2-3 Xtreme Mac xtrememac.com 38 Intego 109 Intego 109	Farthlink	earthlink not/voice	16			
ESS Data Recovery Labs savemyfiles.com 105 Retractable Banners tradeshow-stuff.com 107 FatCow fatcow.com/mac 107 SeafoodByNet seafoodbynet.com 108 Full Tilt Poker fulltiltpoker.net 41 Sharpdots sharpdots.com 108 Fujitsu fcpa.fujitsu.com/9689 7 Shreve Systems shrevesystems.com 108 Geek Cruise geekcruises.com 33, 111 Software MacKiev mackiev.com 35, 39 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Hildreth Enterprises macprices.com 107 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Xtreme Mac xtrememac.com 38 Intego intego.com 25				•	_	
FatCow fatcow.com/mac 107 SeafoodByNet seafoodbynet.com 108 Full Tilt Poker fulltiltpoker.net 41 Sharpdots sharpdots.com 108 Fujitsu fcpa.fujitsu.com/9689 7 Shreve Systems shrevesystems.com 108 Geek Cruise geekcruises.com 33, 111 Software MacKiev mackiev.com 35, 39 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Hildreth Enterprises macprices.com 107 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Xtreme Mac xtrememac.com 38 Intego intego.com 25						
Full Tilt Poker fulltiltpoker.net 41 Sharpdots sharpdots.com 108 Fujitsu fcpa.fujitsu.com/9689 7 Shreve Systems shrevesystems.com 108 Geek Cruise geekcruises.com 33, 111 Software MacKiev mackiev.com 35, 39 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software intego.com 25 Kerox xtrememac.com 38 Intego intego.com 25	ESS Data Recovery Labs	savemyfiles.com	105	Retractable Banners	tradeshow-stuff.com	107
Fujitsu fcpa.fujitsu.com/9689 7 Shreve Systems shrevesystems.com 108 Geek Cruise geekcruises.com 33, 111 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Hildreth Enterprises macprices.com 107 Inkfarm inkfarm.com 108 Insider Software insidersoftware.com 37 Insider Software insidersoftware.com 25 Small Dog smalldog.com 42-43 Software MacKiev mackiev.com 35, 39 Wacom tabletphotofun.com 17 Wiebe Tech wiebetech.com 100 Xerox xerox.com 2-3 Xtreme Mac xtrememac.com 38 Intego intego.com 25	FatCow	fatcow.com/mac	107	SeafoodByNet	seafoodbynet.com	108
Geek Cruise geekcruises.com 33, 111 Smelve systems sine vesystems.com 42-43 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 Hewlett-Packard hpshopping.com C4 Hildreth Enterprises macprices.com 107 Inkfarm inkfarm.com 108 Xerox xerox.com 100 Insider Software insidersoftware.com 37 Xtreme Mac xtrememac.com 38 Intego intego.com 25	Full Tilt Poker	fulltiltpoker.net	41	Sharpdots	sharpdots.com	108
Geek Cruise geekcruises.com 33, 111 Software MacKiev mackiev.com 35, 39 Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Xtreme Mac xtrememac.com 38 Intego intego.com 25	Fujitsu	fcpa.fujitsu.com/9689	7	Shreve Systems	shrevesystems.com	108
Granite Digital granitedigital.com 100 Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Xtreme Mac xtrememac.com 38 Intego intego.com 25				Small Dog	smalldog.com	42-43
Griffin Technology griffintechnology.com 4 TechRestore techrestore.com 104 Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Hildreth Enterprises macprices.com 107 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Xtreme Mac xtrememac.com 38 Intego intego.com 25				Software MacKiev	mackiev.com	35, 39
Hewlett-Packard hpshopping.com C4 Wacom tabletphotofun.com 17 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Xtreme Mac xtrememac.com 38 Intego intego.com 25						
Hildreth Enterprises macprices.com 107 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Xtreme Mac xtrememac.com 38 Intego intego.com 25	Griffin Technology	griffintechnology.com	4	TechRestore	techrestore.com	104
Hildreth Enterprises macprices.com 107 Wiebe Tech wiebetech.com 100 Inkfarm inkfarm.com 108 Xerox xerox.com 2-3 Insider Software insidersoftware.com 37 Xtreme Mac xtrememac.com 38 Intego intego.com 25	Hewlett-Packard	hpshopping.com	C4	Wacom	tabletphotofun.com	17
Insider Software insidersoftware.com 37	Hildreth Enterprises	macprices.com	107			100
Insider Software insidersoftware.com 37						
Intego intego.com 25	Inkfarm	inkfarm.com	108	Xerox	xerox.com	2-3
Intego intego.com 25	Insider Software	insidersoftware.com	37	Xtreme Mac	xtrememac.com	38
iSkin iskin.com 71 zCover zcover.com 15	Intego	intego.com	25			
	iSkin	iskin.com	71	zCover	zcover.com	15

starch 2006, Volume 23, Number 3 Macworld (ISSN 0741-8647) is published monthly by Mac Publishing, L.L.C. Editorial and business offices: 501 2nd St. 5th Fir., San Francisco, CA 94107, 415/243-0505. Subscription orders and inquiries should be directed to 515/243-3273.

Number 3 Macworld (ISSN 0741-8647) is published monthly by Mac Publishing, L.L.C. Editorial and business offices: 501 2nd St. 5th Fir., San Francisco, CA 94107, 415/243-0505. Subscription orders and inquiries should be directed to 515/243-3273.

Number 3 Macworld (ISSN 0741-8647) is published monthly by Mac Publishing, L.L.C. Editorial and business offices: 501 2nd St. 5th Fir., San Francisco, CA 94107, 415/243-0505. Subscription orders and inquiries should be directed to 515/243-3273.

Number 3 Macworld (ISSN 0741-8647) is published monthly by Mac Publishing, L.L.C. Editorial and business offices: 501 2nd St. 5th Fir., San Francisco, CA 94107, 415/243-0505. Subscription orders and inquiries should be directed to 515/243-3273.

Number 3 Macworld (ISSN 0741-8647) is published monthly by Mac Publishing, L.L.C. Editorial and business offices: 501 2nd St. 5th Fir., San Francisco, CA 94107, 415/243-0505. Subscription orders and inquiries should be directed to 515/243-3273.

Number 3 Macworld (ISSN 0741-8647) is published monthly by Mac Publishing, L.L.C. Editorial and business offices: 501 2nd St. 5th Fir., San Francisco, CA 94107, 415/243-0505. Subscription orders and inquiries should be directed to 515/243-3273.

Number 3 Macworld (ISSN 0741-8647) is published monthly by Mac Published monthly by Mac Published Macworld (ISSN 0741-8647) is published monthly by Macworld (ISSN 0741-8647) is published monthly b

www.macconnection.com

Visit for the latest news and products from the January Macworld Expo in San Francisco!

iPOD ACCESSORIES

Lightest Rechargeable Battery

iBoost Battery Pack for iPod & iPod Video

- Up to 7 hours video playback time
- Up to 16 hours extra music play time

ONLY \$4995 #5882794



Get an iLife!

iLife '06

- Includes iPhoto, iMovie HD, iDVD, and GarageBand, and new iWeb
- Share photos, movies, podcasts, and blogs on the Internet using your .Mac account



iLife '06 Retail \$79 #6317818 iLife '06 Family Pack 99 #6317826

Making Your iJob Easier

iWork '06

- Includes Pages 2 and Keynote 3
- Create everything from company newsletters to cinema-quality presentations



Authorized

iWork '06 Retail

.**\$79** #6317834

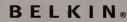
iWork '06 Family Pack 99 #6317842

Roam Around Your Home

TuneStage for iPod

■ Wirelessly play your iPod tunes, from virtually anywhere in your home

ONLY \$14995 #5972079





MONSTER®

One Sutton Makes You King of Home Theatre

Home Theatre Controller 100

Easy-to-use with simple setup; activity-based

ONLY \$29995 #6310181

All Eyes on iPod

Video-Capable iPod:

= 2.5" color LCD = Store up to 15,000 songs/25,000 photos/150 hours of video # Up to 20 hours of battery life on a single charge

iPod 30GB (color screen)

#6036012 (White) #6036039 (Black) \$294

iPod 60GB (color screen)

#6094757 (White) #6094749 (Black) \$394

iPod nano:

- Holds up to 1000 songs and full-color album art
- Holds up to 25,000 photos[†] Only 3.5" x 1.6" x 0.27" and 1.5 oz Bright 1.5" color LCD display Up to 14 hours of battery life

iPod nano 2GB

#6035853 (White) #6035870 (Black) \$194

iPod nano 4GB

#6035861 (White) #6035888 (Black) \$394

†Photo capacity is based on iPod nano-viewable photos transferred from iTunes



iPod shuffle

- Store up to 240 songs
- Pocket-sized
- Up to 12 hours of battery life

STARTING AT \$99

POWER MAC G5s STARTING AT

NEW!

Power⁴

Power Mac G5 Quad 2.5GHz

- Up to two dual-core 2.5GHz PowerPC G5 Processors
- Up to 1.25GHz frontside bus per processor = 1MB per core L2 cache Up to 250GB Serial ATA hard drive
- nVIDIA GeForce 6600 with 256MB GDDR SDRAM



Signature Apple Style, for Mac and PC

PERIPHERALS

20" M9177LL LCD **Cinema Display**

- Shows two full pages of text; 1680 x 1050 resolution
- Connects through DVI to PC

This Mouse Goes

Wireless Mouse

Equally comfortable for

righties and southpaws

with a 33-ft range

ONLY \$5995

#5313701

■ Interference-free wireless

Everywhere

ONLY \$794 #5138308



For Serious Recording, Straight to DVD

Only 3.5 x

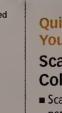
1.6 x 0.27

inches and

1.5 ounces

DCR-DVD403 **DVD Handycam**

- 3.3-megapixel Advanced HAD™ CCD imager
- 10X optical/120X digital zoom



- Scan 15 double-sided pages per minute in color
- Automatically eliminate blank pages

ONLY \$449 #6072021













ALL THE PRODUCTS YOU WANT, ALL IN ONE PLACE



Same Apple, **New Chip—** Twice as Fast!

iMac

with Intel Core Duo Processor

■ 2MB shared L2 cache, up to 2.0GHz, 667MHz FSB ■ 512MB DDR2 SDRAM ■ Up to 250GB Serial ATA HD = Up to 20" widescreen LCD = ATI Radeon X1600 graphics with 128MB GDDR3 memory Slot-load 8X SuperDrive (DVD±RW/CD-RW) = Built-in AirPort Extreme and Bluetooth 2.0

NEW IMACS STARTING AT

Intel at the Core

New MacBook Pro: 4 Times Faster Than PowerBook G4!

MacBook Pro with Intel Core Duo Processor

- 2MB shared L2 cache,
- Up to 1GB DDR2 SDRAM Up to 120GB Serial ATA HD
- ATI Mobility Radeon X1600
- with 256MB GDDR3 memory Slot-load SuperDrive (DVD±RW/CD-RW)
- 15.4-inch TFT display





Authorized Reseller

Microsoft

peed, Versatility, d Simplicity

ylus RX620 Photo Printer

rop, resize, make reprints and enlargements, iew, select, and print hotos-all PC-free cans, prints, and copies





e after \$50 mail-ın rebate. Expires 3/31/2006



Essential Financial Management Tools

SOFTWARE

MYOB FirstEdge 2006 Organize bank accounts

- and statements ■ Track expenses
- Generate reports

ONLY \$9495 #6198302





MYOB

The Leading Productivity Suite-for Mac

Office 2004 for **Mac Standard**

- Access e-mails, documents, audio, video from one location
- Create better-looking documents and presentations

ONLY \$35995



lish Storage for Mac mini

iniMax Desktop Hard Drive

wailable in 160GB or 250GB ompact, stackable

ARTING AT ONLY \$18999

OGB #6181842 OGB #6181851



iomega

www.macconnection.com/mw

800.800.3333

MacConnection

the right tools for the right brain™

NEW! Faster Mac models with Intel processing!

It's a brand new world for Apple as they inaugurate a whole NEW Mac lineup based on powerful Intel processing! Call your MacMall

Account Executive today and be one of the first to own a NEW iMac or MacBook Pro with incredible Intel Core Duo processors!





NEW iMac®—up to 2X faster Intel Core Duo Processor up to 2GHz!

Up to 20" display! Built-in iSight! FREE Extra 512MB Premium RAM!* FREE Printer!*

starting at \$1,294

NEW MacBook Pro now up to 4X faster!

Intel Core Duo Processor up to 1.83GHz 15.4" display! NEW Built-in iSight! FREE Up to an Extra 1GB Premium RAM!* FREE Carrying Case!* FREE Printer!*

starting at

The hottest software deals!

The coolest iPod accessories!



iPod Home Charger

#188263



Wireless Headphones

for iPod

#563124

\$1445



95.3





Apple iLife® '06

iLife

New Version!





















Save even more than our advertised price by shopping online or calling.

Prices are too low to advertise!

Look for the shopping cart symbol

Look for the shopping cart symbol for models that qualify.

Save up to an EXTRA \$200 or get up to 2GB EXTRA RAM FREE!* Get a FREE Epson All-in-One Printer! With select computer purchase! Hurry! Offers end soon! See below for details.

We'll beat any price on any Apple brand products!*









iBook G4 up to 1.42GHz

512MB SDRAM; exp. to 1.5GB.
Up to 60GB ATA/100 hard disk drive.
Combo Drive (DVD/CD-RW) or
SuperDrive (DVD±R/CD-RW).

Save an extra \$50!*

starting at

\$994!

Finance for as low as \$20/mo

Power Mac® G5 up to 2.5GHz

512MB DDR2 SDRAM; exp. to 16GB. Up to 250GB Serial ATA hard drive.
16X Dual Layer SuperDrive.™
Dual Gigabit Ethemet.

Save up to an extra \$200!* starting at

\$1,994!

Finance for as low as \$54/mo

iPod® with Video up to 60GB

30GB and 60GB models. Up to 15,000 songs, 25,000 photos or 150 hours of video!

FREE FM Transmitter!*
FREE Engraving!*

FREE Carrying Case!*

starting at \$2941

iPod nano 2GB or 4GB!

Holds up to 1,000 songs and full-color album art (4GB). Weighs only 1.5oz!
Bright 1.5" color LCD.

FREE FM Transmitter!*
FREE Engraving!*

FREE Carrying Case!*

starting at

\$194!

WE'LL BEAT ANY PRICE ON ANY APPLE BRAND PRODUCTS or competitive promotion on any Apple computer. We may require proof of dealer's pricing. Competitor must be an Apple Authorized Reselver. Product must be in stock at the competition. Advertised item must be identical to the one offered by MacMall and must be a new item in a factory sealed box. We reserve the right to limit quantity ordered. This offer does not apply to special, borus or free offers, grand openings, special purchases or special buys, manufacturer's rebates, closeouts, clearances, or to dealers' one-of-a-kind or other limited quantity offers. Nor does it apply to advertising errors made by any authorized dealer. Not open to dealers. Void where prohibited. Sorry, offer not valid in conjunction with other rebate offers, on multiple-item quotes: "We II Beat Any Price" applies to the price of the entire order, not individual line items. Offer applies to pre-taxed prices only offer applies to pre-taxed prices and apply to advertising errors made by any authorized dealers. Not open to dealers. Not open to dealers. Void where prohibited. Sorry, offer not valid in conjunction with other rebate with purchases of select computer models. Cash Back offer may not be combined with free RAM offers require a S39.99 installation fee when a S30.00 Cash Back offer may not be combined with free RAM offers require a S30.99 installation fee a Nacobox Proportion of the Internation of the Inte

The best selection of displays and accessories!



1GB Cruzer Mini USB 2.0 Portable Flash Drive #371409











Call MacMall today! 1-800-321-7532

Source Code: MACWORLD









Other World Computing

Serving the Mac Universe since 1988 visit macsales.com 800.275.4576

SuperDrive Your Mac From Only \$52.99!

Make Music, Movies & More Add a Fast SuperDrive to your Mac to Burn CDs, DVDs, even 8.5GB Dual Layer DVDs!











MemoryMore Memory for a Faster Mac!

From the min to the Max - OWC has the right Memory for your Apple.

For the latest PowerMac G5 & iMac G5 Models:

1.0GB (1024MB) modules from \$99

1.0GB upgrade kits (2x512MB) from **\$95.00**

2.0GB upgrade kits (2x1GB)

from **\$195.00**

2.0GB (2048MB) modules

from **\$259.00**

4.0GB kits from (2x2GB)

from \$529.00

For PowerMac G4s, iMac G4s, eMac G4s, Mac mini: 256MB from \$25
512MB from \$49
1GB from \$99

For PowerBook 12/15/17; iBook G3/G4s: 512MB modules from \$49 1GB modules from \$119



Lifetime Advance Replacement Warranty.



Call 800-275-4576 or visit www.macsales. com/memory and use our online guide to get the right memory for your Mac!

Not sure what upgrade is best for your computer?

etc; Roxio Toast; nearly any CD/DVD authorizing software available!

macsales.com/superdrive



Then visit My OWC Upgrade Center and buy with confidence!

media, cases & label kits in stock too!

macsales.com/MyOWC

Hard Drives

Internal Hard Drives

Bulk up your computer by giving it higher capacity to perform for your needs.

For iMacs, eMacs & PowerMacs





For PowerBooks, iBooks & Mac mini





Not sure what your Mac takes?

Buy with Confidence, call or use our online guides macsales.com/harddrives

Hard Drive Controllers

Hard Disk Controller Cards

Serial ATA 4-Channel PCI-M \$79.95

Tempo ATA & SATA Mac PCI Controllers Tempo Trio FireWire/USB2/ATA-133

all in one PCI \$149.00

FirmTek 4-Channel SATA Controllers from \$119.95

SATA External Enclosures **OWC**

NEW OWC Mercury Elite-AL SATA DUAL BAY \$99.95

FirmTekDual-Bay Hot Swap External Serial ATA Enclosure with SATA PCI Controller Card \$257.95

Sonnet Fusion 4-Bay SATA Kit \$549.00

Hard Drive Enclosures

OWC

OWC Mercury Elite SATA RAID Solutions

Perfect for Mass Storage or RAID. Cables included.

1 Year OWC Warranty

Starting from \$79.95



ADD FIREWIRE & USB

to your Mac! FireWire from \$9.95

FireWire+USB Combos from \$29.99

PROSOFT

Drive Genius Retail \$99.95 \$65.00 Maintains, Manages, Optimizes, Repairs. Keep your Hard Drives

at their best. Recover data if disaster strikes!







Maximize your mini

The NewerTech miniStack provides just what you've been looking for - more hard drive space, more FireWire and USB 2.0/1.1 ports, and more speed. Up to 500GB extra hard drive space with a 7200RPM drive available for as little as \$75.00. miniStackTM Magazine 'Top Product'

Highly Reliable, High-Performance, Plug & Play FireWire & USB2

PreWire 400 Port USB 20 Por

Add up to 1 Terabyte - 1000GBs - for your Audio/Video, Backup, Music, Additional Storage Needs, etc with a top rated OWC or NewerTech Storage Solution. Exclusively using the latest Oxford Chipsets and the the latest Hitachi and Seagate drives, these solutions are built to last. All solutions are EMC/Dantz Retrospect Backup Certified and backed with up to a 2 Year OWC or NewerTech Warranty.

Solutions start from as low as \$99.99

300GB from \$229.99 160GB from \$129.99 250GB from \$179.99

Up to 1TB for \$899.99 All A/V Certified! 500GB from \$349.99



See the full line of OWC FireWire solutions, as well as solutions by LaCie, EZ Quest, SmartDisk, and Wiebetech online at macsales.com/FireWire

Solutions include backup by Solutions include all cables, Dantz Retrospect Retrospect Retrospect

Backup, Intech HD Speedtools and are preformatted with free bonus software loaded all ready to plug and play your PowerMac, PowerBook, iMac, iBook, or eMac too.



NewerTech's miniStack for your Mac mini Starting from \$75.00

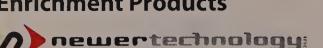
Macworld Magazine December 2005



Mod your iPod

From High Capacity Batteries to cases, Other World Computing has you covered in keeping your iPod looking stylish as well as getting more playing time.

iPod Replacement Batteries & **Enrichment Products**



iPod Replacement Battery Kits Easy to Install, Tools Included + Online Installation Videos. Get up to 78% more capacity & 20+ Hours Runtime!



Not comfortable opening your iPod?
For \$39 + the cost of the battery, OWC installs it for you - iPod shipping Box and FedEx Overnight covered to and from! macsales.com/iPodinstall

NuPower^{*}

iPod cases



Accessories, and more online at macsales.com/iPod RoadTrip & RoadTrip Plus

of iPod Batteries,

Listen to your iPod on-the-road! Finally, an easy to use and GREAT sounding FM Transmitter for your iPod! Just plug, tune a single station and jam on without interruption. Easier to use and sounds better than products costing 2 times as much!



The Different Distric RoadTrip! **FM Transmitter** For ALL Apple iPods

RoadTrip! \$14.99

Music on your Mac macsales.com/music

M-AUDIO

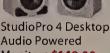


Nova Large Capsule Cardioid Microphone \$99.00



Trigger Finger MIDI Controller Input Device \$199.00





Audio Powered Monitors \$149.00



Ozone USB Audio 8 Midi Controller Knobs **\$249.00**

contour

Shuttle A/V Controllers



Shuttle Pro v2 Jog/Shuttle (15 programmable buttons) \$84.99



Shuttle Express Jog/Shuttle (5 programmable buttons) \$39.99



elgato

EyeTV Video Encoder / TV Tuner/Digital Recorder \$149.99 EyeTV 200 **\$295.00**

EyeTV 500 High-Definition



taster Mac.net Pay less. Get more. Surf faster!

Mac-Only Internet

from only per month!

High-Speed Nationwide Dial-up and DSL Services Toll-Free Tech Support & More from Mac Experts

Visit FasterMac.net or call toll free 800-869-9152 to learn more or to sign up.





Mac Improvement Laptop Batteries

newertechnology;

NuPower*

PowerBook G4 Titanium 15" 4800mAh NuPower \$149.95 For all 400-1GHz Models, up to 42% MORE Capacity vs. Original Battery! NuPower batteries with up to 50% more

Capacity also available from \$119.99 for PowerBook G4 Aluminum 12/15/17" Models, PowerBook G3 Wallstreet/ Lombard/Pismo, All iBook G3 and iBook G4 Models.

Call or Visit macsales.com/NewerTech

Laptop Screen Protectors

Protect your screen! There's an OWC Laptop Screen Protector (LSP) product for your Mac.

PowerBook G4 17" \$17.99 PowerBook G4 15" \$17.95 PowerBook G3 15" \$14.99 iBook/PowerBook G4 12" \$13.95

The OWC LSPs are precision cut, glove soft leather protectors that prevent potentially permanent marks which can occur from the trackpad and keyboard while your laptop is closed.

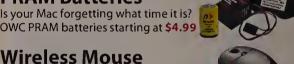


Network Adapters

D-Link 10/100 Ethernet PCI Card \$9.99

PRAM Batteries

Is your Mac forgetting what time it is? OWC PRAM batteries starting at \$4.99



Logitech Cordless 'Click' Optical Mouse for USB SPECIAL \$15.99

O'Reilly Books The latest Mactitles

from \$9.95 Over 30 Mac Titles In Stock!



Mac mini upgrades

Upgrade to 1GB only \$93.95

More Memory = Much Foster!

Get a Bigger & Faster Hard Drive from \$79.99 More Storage that's up to 43.8% Foster!

Burn DVDs & CDs for only \$119.99 8X DVD Burner is twice os fost os Apple's current S uperDrive option + supports Duol Loyer DVD Burning!

miniStack" From \$75.00

Exclusive OWC Online Video shows how to install these Mac mini upgrades or for \$99 including overnight pickup and return delivery, OWC will do the Mac mini upgrades for you! Call or Visit macsales.com/macmini

The Latest Enhancements Village

Village Tronic VTBook Add another CRT or Flat Panel Display to your

Powerbook **\$246.99** iLugger iMac cases for the iMac G5 or for Mac mini and/or

combinations starting at \$99.95 Rain Design i360°

up to 20" LCD Display 5 color

A Turntable for your iMac G5 17"and 20" \$39.00





your iMac. Six

Explore with your G4

OWC is the Apple Upgrades Expert! We know how to make your Mac a Faster Mac. And it's really amazing too – with a new processor, your Mac can be like new again – even better than new as it's possible for it to be FASTER than even a brand new Mac too. With 30 Days to try and a full 100% refund if it's not for you – got nothing to lose except that spinning beach ball.



OWC Stocks the full line of G3 & G4 Processors **OWC** SONN®S upgrades by these leading manufacturers:

newertechnology:

G4 Single Processor Upgrades from \$195, 1.6GHz only \$269.00 G4 Dual Processor Upgrades from \$349, Dual 1.6GHz just \$429.00

G4 Upgrades for PowerMac G3s, PowerMac G4s, Cube G4, PowerBook G3s -

Even Legacy PowerMac 7200-9600 Models!













Give us a call or check out our website. Right online at www.macsales. com/Faster our compatibility guide will show

just what options are right to make the Power Mac, PowerBook, iMac, etc - a Faster Mac today!

ATI MacEdition Performance Video Cards

When your Mac is Fast, Don't let a SLOW video card hold you back!

PCI Video Upgrade for Performance or Additional Displays: ATI Radeon 9200 w/128MB for any Mac with an Available **PCI Slot** \$127.95

Up to 2048x1536 resolution.

Compatible with up to 24" Displays!

High-Performance AGP Video

Card Upgrades *All of the following support up to two displays* ATI Radeon x800 MacEdition with 256MB \$449.00 TOP OF THE LINE G5 VIDEO Card supports up to Apple's 30" Display!



For all PowerMac G4

For PowerMac G5 Only.

ATI Radeon 9600 \$79.00

Up to 256MB of High-Performance Video Memory For 4X and 8X AGP G4, G5 models Support for up to two Apple 30" Cinema Displays!

Quartz Extreme, Tiger Core Video Accelerated

For Power Mac G4 Digital Audio, QuickSilver, Mirrored-Drive Door, and all G5 Models.

NEW! ATI Technologies RADEON 9800 PRO MAC

EDITION \$259.00 Ultra High Performance Dual Head Video

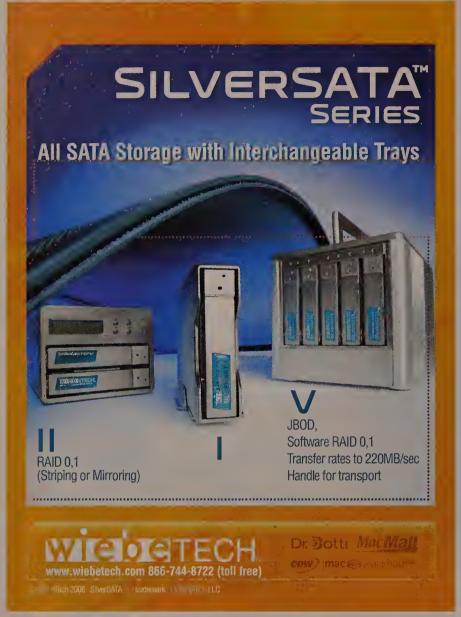
Card W/ DVI, VGA and S-Video Ports, 256MB, New, for PowerMac G4s.

Quartz Extreme, Tiger Core Video Accelerated



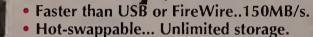








SATA is fast, hot-swap, and more affordable!



Affordable and up to 500 Gigabytes.

• Easy to use... plug and play.

Complete System incudes 1 Drive Tray, Shielded Cable, and 2 Channel Host Adapter... \$199

You supply the drive.



Additional Drive Trays \$29.95

Complete System includes 2 Drive Trays, Shielded Cables, and 2 Channel **Host Adapter** ...\$399

> You supply the drives.

4.0 Terabyte RAID 5 Hot-Swap Systems offer unsurpassed value and reliability and support the NEW G5... \$5500



Hardware RAID 5

Our RAID / JBOD Systems can be configured with any size drives and are truly Hot-Swappable. Now no matter what your storage or backup needs entail Granite Digital has the solution that fits

SATA is simply the fastest most affordable storage solution available. The mechanisms are rated at 150MB/s which means they can capture DV, AV, and preform backups faster and more efficiently than any other storage solution. Next add the ability to hot-swap drives in and out of your computer and you have a winning combination that can't be beat. The Granite SATA Systems offer unlimited storage capabilities... fill up a drive... then just keep adding drives. It doesn't get any better or more affordable than that!

Granite Gold Cables, Adapters, SCSI Terminators, Case Kits, and Components offer the ultimate in quality and reliability.



Host

EireWire Cables



Adapters





Boards

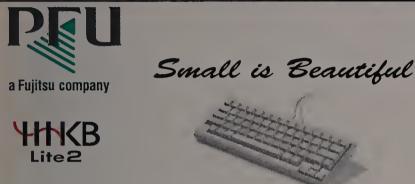
Get our catalog online at www.granitedigital.com

Granite Digital • 3101 Whipple Rd., Union City, CA. 94587 • 510-471-6442-tel • 510-471-6267-fax

Providing Data Storage Integrity

DeloGoloToAol





If you bought a Mac mini to save space, why are you still using a full-size keyboard? The PFU Happy Hacking Keyboard Lite2's long name belies its mini-matching size: only 11.6 by 4.7 inches.

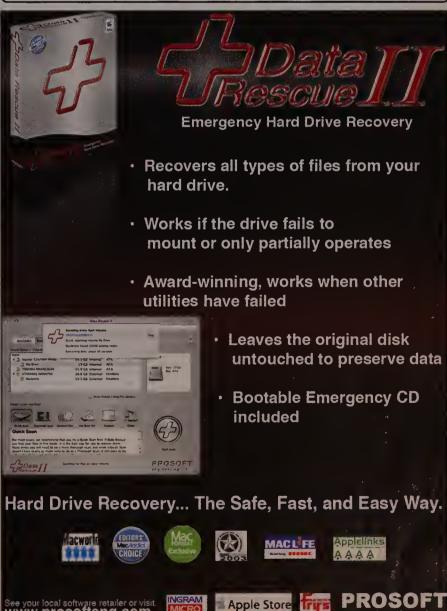
The keys are the same size as a standard keyboard and includes standard arrow keys. The drawback is a slightly modified layout that places a few keys in non-standard locations, but it does not take long to get used to.



Happy Hacking Keyboard Series www.pfu.fujitsu.com/en/hhkeyboard/







www.prosofteng.com



Made for iPod

iPod dock with recharging and synchronization ● 2.1 Subwoofer speaker system with digital amplifier and bass control ● FM radio with auto scan tuning, preset station and last station memory ● Telescopic antenna ● Blue halo lamp ● AC or battery powered (4 AA) ● USB ● Audio in



iLap Stay cool. Wherever.

"iLap features an angled anodized aluminum base with a soft padded riser and padded wrist rest..."

ol. Wherever.
odized aluminum base
nd padded wrist rest..."

Macworld



NEW. i360' turntable provides an elegant and dynamic way to turn your iMac G5 and Cinema Display (17-inch, 20-inch and 23-inch).



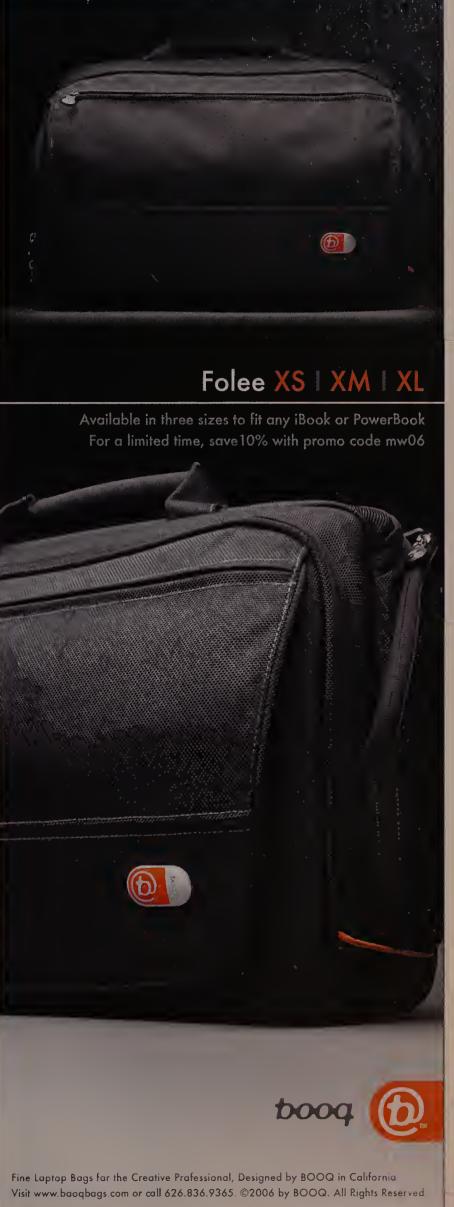
iGo Your iMac's other half.
"iGo is a desk designed with the iMac In mind, and the two together are quite a sight."

★★★ Macworld UK









iPod Repairs & Upgrades OVERNIGHT - WORLDWIDE: 1-877-For-iPod

FREE iPod Repair Estimate For Details Visits iPodRestore.com

 $1^{\underline{st}}$ Gen. 5_{gb} to 20gb \$149 $2^{\underline{nd}}$ Gen. 10_{gb} to 20gb \$129 $3^{\underline{nd}}$ Gen. 15_{gb} to 40gb \$189 4th Gen. 20gb to 60gb \$219

1000mAh Battery Upgrade Round-Trip Overnight Service - \$49

InvisibleSHIELD Scratch-Proof Film For iPod nano And video iPod From \$18

24-Hour iPod LCD Screen Repairs Starting At \$99!

AlliRepairs include Round Trip Overnight Shipping!

Xserve & RAID Liquidation!



Xserve G4/1GHz Dual, 512MB, 60GB, CD Drive, \$899 Xserve G5/2GHz SP, 1GB, 80GB, Combo Drive, \$2299 Xserve G5/2.3 Dual, 4GB, 160GB, Combo Drive, \$3393

Xserve RAID 1 Terabyte (1000GB), 4x250 Drives \$3699 Xserve RAID 2.5 Terabyte (2500GB), 10x250 Drives \$4999 Overnight Stainless Steel Hinge Replacements
Xserve RAID 5.6 Terabyte (5500GB), 14x400 Drives \$6999 \$299 Includes Round Trip Overnight Shipping

owerBook & iBook Blowout!

PowerBook G4/667, Titanium, 15-inch: \$699 PowerBook G4/867, Aluminum, 12-inch: \$699 PowerBook G4/1GHz, Titanium, 15-inch: \$1049 PowerBook G4/1.25G, Aluminum, 15-inch: \$1349 PowerBook G4/1.33G, Aluminum, 17-inch: \$1599

With 6 Month Warranty

iBook G3/700 12-inch from: \$349 iBook G3/800 CD-RW/DVD 12-inch: \$499 IBook G8/900 CD-RW/DVD 12-Inch: \$549

IBook G3/900 CD-RW/DVD 14-inch: \$589 Stock Changes Daily! Visit TechRestore.com For More Deals.

EE Nationwide Overnight Pickup & Diagnosis

8x Dual-Layer SuperDrive Upgrades For PowerBook G4 And

iBook G4 Series Only \$129

Hard Drive Upgrades For PowerBooks & iBooks Includes Data Transfer, Round-Trip Overnight Shipping And 24-Hour Repair!

60gb - \$219 80gb - \$249 100gb - \$279 120gb - \$329 100gb 7200 RPM Upgrade - \$399!

PowerBook Repairs & Upgrades OVERNIGHT - WORLDWIDE: 1-888-5-PB-Repair

Add \$19 To Have Your Old Drive Put in An External USB Enclosure

\$299 Includes Round-Trip Overnight Shipping

Overnight LCD Repair for PowerBooks & iBooks

Includes Round-Trip Overnight Shipping - From \$399

Worldwode Repairs 244Hour Turnaround Local Pickup & Delivery Fast, Friendly Service

1-Year Warranty On PowerBook & iBook Repairs!

TechRestore

Local/International: 925-689-9488

The Missing Sync

Get the most from devices running:

- ▶ Palm OS
- ▶ Pocket PC
- Windows Mobile Smartphone
- Sidekick & hiptop



Say goodbye to outdated synchronization software

www.markspace.com







DATA RECOVERY: 800-440-1904

7 great reasons to choose DriveSavers:



"We Can Save It!"

- Fast, advanced, proprietary techniques.
- Recommended by all computer and hard drive manufacturers.
- All operating systems; Mac, Windows, OS/2, Netware and UNIX.
- All storage devices including flash memory, MP3 players, SAN, RAID and NAS systems.
- Instantly retrieve recovered data with DataExpress™.
- **Government Contracts** and High Security Service.
- Featured in MacWorld, MacAddict,

Forbes, CNN,

BBC, New York Times, Popular Machanics and more.

Visit DriveSavers at www.drivesavers.com 2006 DRIVESAVERS, INC. 400 BEL MARIN KEYS BLVD., NOVATO, CA 94949 INTL: 415-382-2000



FREE Sample Kit Online

3 NEW ways to Buy Printing

EXPRESS ORDERING: Our standard 1-2 day turnaround.

COMBO ORDERING:

Maximize your profit potential by "grouping" your clients together on the same paper stock. With this buying feature, Americas Printer customers can receive up to 50% discounts on our pricing.

VALUE ORDERING:

When PRICE is the driving factor for your clients, Value Ordering is your best solution.... Learn the in's & out's of how we build our press sheets and the "value" of long press runs to increase your profit potential....

Starting at \$79

Sales Sheets Starting at \$91

11"x17" Posters Starting at \$185

Tri Fold Brochures Starting at \$179

> 4 Page Catalog Starting at \$349

> 8 Page Catalog Starting at \$698

> > **Presentation Folders** Starting at \$629

> > > All Full Color. All Premium Stock.

- Over 2,000 products in our price guide....
- We Service over 11,000 Customers Nationwide
- Full Commercial Heidelberg Printshop

Print & Ship Anywhere in the USA

714.521.1100 CA | 714.521.5650 fax

6910 Aragon Circle, Buena Park, CA 90620 www.AmericasPrinter.com



I print all my designs through Americas Printer.com



TRADE PRINTING

Printing Services offered for Print Brokers, Designers, Photographers, Publishers, Print Shops, and Design Agencies.

Nationwide Leader in Low Pricing

Highest Quality Guaranteed

Fastest Turnaround

Out of this World Prices... Right Here on Earth!

Next Business Day Turnaround Available!



Free Upgrade!



16PG

Now Available!



5th Color Pantone 877C

WE'LL MATCH ANYBODY'S ADVERTISED PRICE AND BEAT THEIR OUALITY





TOLL FREE PHONE

1.877.782.2737

TOLL FREE FAX:

1.877.972.9117 5900 SAN FERNANDO RD. UNIT B GLENDALE, CA 91202

MacPrices.com

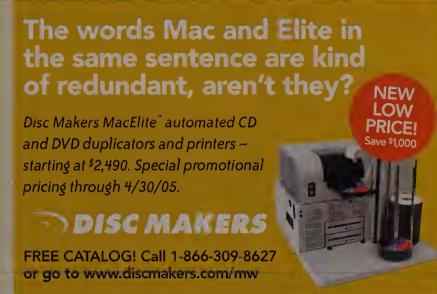


- Find the lowest price!
- Get the best bundles!
- Prices updated daily

www.macprices.com



















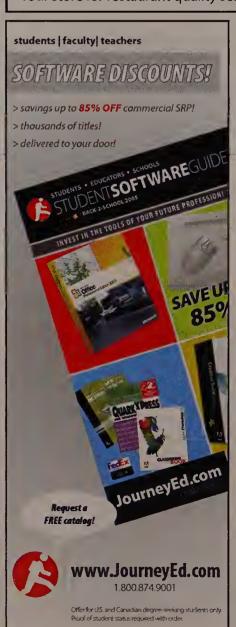


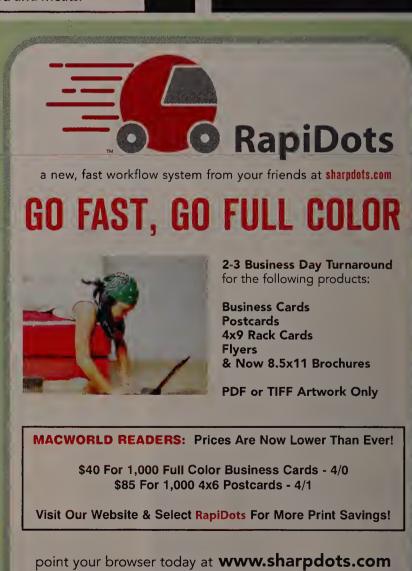












or call 1-877-742-7789 for more information

Software Savings for Students, Teachers, and Schools!

Get up to 85% off retail software prices on the brands you know and use...



Adobe® Photoshop CS2 Save! 53% **Order Today!** Edit Your Digital Images!



Wacom® Intuos3 6x8 Save! \$40 Only! \$289.95 Create Digital Artwork!



Quark® QuarkXpress 6.5 Save! \$756 Only! \$189.95 Make Amazing Documents!



MakeMusic® Finale 2006 Save! \$360 Only! \$239.95 Create Your Own Music!

We carry thousands of industry-leading software and hardware products at huge discounts for students, teachers and schools. These special prices are ONLY for the academic community. And our prices are typically \$10-\$20 lower than most college bookstores! Call or visit us online today and start saving!

Adobe	
Acrobat Pro 7Save	69%
Creative Suite 2Save	69%
Production StudioSave	62%
Macromedia®/Adobe®	
Elach Drofossional 9	\$220

Flash Professional 8\$239 Dreamweaver 8......\$189 Studio 8......\$289

Microsoft® Office 2004 Student/Teacher ..\$149

Maya 7 Complete Student...\$289 Maya 7 Unlimited Student...\$379

FileMaker®

FileMaker Pro 8\$149 FileMaker Mobile 8.....\$39

Sibelius® Sibelius 4......**\$239** Auralia 2.1.....\$89

Instruments\$89

We carry many of the products featured in this issue!

Circus Ponies NoteBook 2......\$39 Zengobi Curio 2 Pro......\$64 Inspiration 8**\$59** Elgato EyeTV EZ.....\$139 ArcSoft VideoImpression 2......\$24 Bias Peak Pro XT 5\$899 Corel Painter IX.....\$89

Hey Parents!

"You are eligible to buy for your students at home or away at school."

Give us a call toll free! 1-800-218-7455

MW.AcademicSuperstore.com



High-Performance **Mac Memory**



iMac G5

512mb - \$55

1Gia

iBook G4

256mb - \$39 512mb - \$69

1Gig - \$195



PowerMac G5

PowerBook G4

- \$109

2Gig - \$199 4Gia - Call

512mb - \$59 1Gig - \$99 - \$198

eMac DDR



256mb - \$39 512mb - \$49

1Gig

G4 DDR

512mb - \$49 1Gig - \$98

1.5Gig - \$147

Secure Online Ordering 1-800-831-4569 WWW.RAMJET.COM



Ramjet, Inc. has served the Macintosh community since 1996. Offering top quality components and genuine Mac expertise, Ramjet is frequently cited as the top Macintosh memory company. Being geared toward the professional user, Ramjet performs stringent compatibility and performance burn-in tests to assure maximum reliability. This quality control, coupled with an easy and generous warranty, makes Ramjet the smart choice

Professional, Fast, Dependable

Best Quality Service & Price

DMS Certified Memory All memory is tested in our on site test lab

Call TOLL FREE • 800-662-7466



Free Shipping for memory orders placed online.

Free Telephone **Support** for DMS customers.

Memory for all Macs and Legacy Mac models Online Memory Finder

Educator Discounts

 Online Purchase Orders · Lifetime Memory Guarantee

· Friendly, knowledgeable Sales Staff

ACCESSORIES | BATTERIES | CABLES | CAMERA MEMORY | CDRW | FIREWIRE | DVD | FLASH DRIVES | HARD DRIVES | MEMORY UPGRADES | PRINTER MEMORY

Since 1987

www.datamem.com

Toll From: 880-662-7466

Call the Mac Experts!

Located in Oregon, the land of forests, friendly people and no sales tax

Your efforts are above and beyond, and I truly appreciate what you did. PowerMax will be my dealer of choice for my Mac heeds and I will out the word out to my cuent = B.C.

My conjeliments to you, Powermax and your ep for all the help and patience in setting me up and guiding me with my new computer. I am very grateful to (your rep) for all the help and sound advice he has given me. He has been wonderful to work with. - P.P.

I have bought a few things from you in the past and I have to say that you are the best. Your sales staff is polite, service excellent and prices are competitive. - G.W.

Trade In Your Mac or iPod

Thinking of upgrading to a new Mac? You can trade in your old Mac or iPod^{1†} for credit toward a brand new one. We'll even send you a box in which to pack your machine (in case you disposed of the original). Call us today or go online to find out how easy it is to recycle your old iPod or Mac!

Factory Refurbished Mac Sale! Apple Mac mini: G4/1.42GHz -- 256MB RAM/80GB HD/Combo/Tiger OS\$439 Apple eMacs: G4/1.42GHz -- 256MB RAM/80GB HD/Combo drive\$699 G4/1.25GHz -- 256MB RAM/80GB HD/SuperDrive/Panther OS \$739 G4/1.25GHz -- 256MB RAM/80GB HD/SuperDrv. iPod shuffle incl! .. \$809 Apple PowerBooks: 12" G4/1.5GHz -- 512MB RAM/80GB HD/SuperDrive\$1288

17" G4/1.67GHz -- 512MB RAM/100GB HD/SuperDrive\$1899 Get Free Ground Shipping With Any Of These Macs!



Dr. Bodelin's iPod Boombox

These miniature iPod speakers are small in size, but big on sound! Easily docks to iPod, iPod photo, iPod nano and even video iPods! Comes with a nifty wireless remote. only \$69.99

Get a \$75 RAM Rebate and Free Shipping' with Select New Macs!

Apple iBooks:

12 & 14-inch sizes - many with SuperDrive Starting at \$799 Apple G5 PowerMacs: New dual-cores and previous models in stock! Starting at \$1898

Apple G5 iMacs: 17 & 20-inch sizes. Open Box available Starting at \$1199

Apple PowerBooks:

12, 15 and 17-inch sizes. Open Box available ... Starting at \$1339 Apple eMacs:

Apple isn't making them anymore, we have many! ... Starting at \$669 Apple Mac minis:

How can a computer so small be so powerful? Starting at \$529



Need an iPod Accessory that Fits?

Come check out the PowerMax



Did you know there are seven different full-size iPods out there -- all with

their own dimensions and thicknesses? The new PowerMax iPodiatrist "shoos away" the confusion of accessorizing your iPod. This web-based tool helps you understand which specific iPod you own and what cases, docks and cables fit it. Trust the iPodiatrist to cure your iPod accessorizing ills.

PowerMax Used Mac **Special Selection!**

Get special, low pricing on the best Certified Pre-Owned Macs in our inventory.

CRT iMacs G3/333MHz -- A great machine for the kid's homework projects or surfing the web. And, at this price you can get one for each!\$159 Power Mac G4/400MHz -- This workhorse Power Mac is dual bootable and includes a zip drive and ATI Rage 128 video card.\$509 iBook G3/800MHz -- Features a 12-inch screen, 30GB drive and OS 10.2 installed. We have a whole slew of great Snow iBooks in stock.\$579 LCD iMac G4/1.25GHz -- With a 20-inch screen, over 1.0GB RAM and a SuperDrive, you can't go wrong with this awesome iMac!\$1149 Power Mac G4/1.42GHz Dual -- 1024MB RAM, 120GB hard drive, SuperDrive, Airport extreme, Radeaon 9000 Pro Video card ... need we say more? .\$1409 All Certified Pre-Owned macs are thoroughly cleaned, inspected,

bench-tested and come with a 90-day warranty.

Protect vour Laptop

with Dr. Bodelin's Laptop Bumpers. Available in seven colors! only \$14.99

Lose the

Track Ball!



Never clean your mouse again -- get an optical mouse from Dr. Bodelin!

Fast, accurate optical technology. Choose from three styles. only \$14.99



Dr. Bodelin's



Car Charger for USB iPod\$13.99 Sync Cable USB to 30-pin\$13.99 FM Transmitter for iPod shuffle......\$29.99 FM Transmitter/Car Adapter for all iPods . \$79.99 iPod Dock Kit w/ Remote for video iPod . \$29.99



800-513-2072

Local: (503) 624-1827 • Fax: (503) 627-1635

Email: sales@powermax.com

www.powermax.com

- Personal Financing
- Fast P.O. Approvals
- Business Leasing
- Daily Specials on our Web Site

Authorized Reseller

Prices subject to change without notice. Credit card orders strictly verified against fraudulent use. With use of credit card as payment, customer acknowledges that some products are subject to final sale. Many prices are limited to stock on hand. All brand names are registered trademarks of their respective holders. Not responsible for typographical errors. *after mail-in rebate(s) some restrictions apply ††some restrictions apply

8.1 \$59

8.5~\$79

9.1~\$49

Check out our online clearance deals!

X.2^~

9.2~

\$24





PCI Cards

PCMCIA Cards

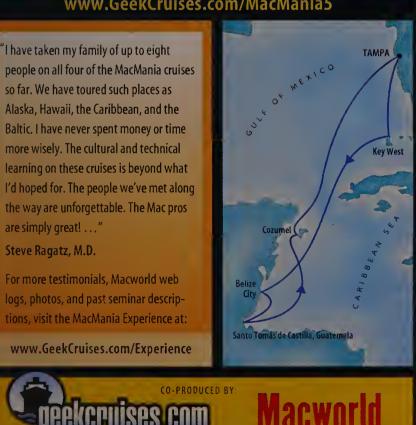
onal Backup

\$49

\$129 MSRP

\$39

\$99 MSRP



THE MAC PRODUCT EXPERTS



iPod Batteries

\$22 \$22

1-2nd Gen 3rd Gen

see www.megamacs.com



LAPVANTAGE LOFT

When I'm at home, I connect an external keyboard and mouse to my PowerBook and place the computer itself on a stand—that lets me use more-ergonomic input devices and keeps me from hunching over to look at the screen. At \$80, Plasticsmith's new Lapvantage Loft stand is more expensive than some competing products, but I like that its top platform is nearly level (so my laptop won't slide off), that its laser-cut steel base swivels 360 degrees, and that its polished acrylic design looks very cool (www.plasticsmith.com).—DAN FRAKES

Knight Rider on iTunes



Knight Rider—the 1980s TV show known for its handsome star, David Hasselhoff, and its talking car, KITTwas a prime-time staple for my family during its four-year

run. So when the first season of Knight Rider became available for download from the iTunes Music Store (\$35 for the season or \$2 per episode), it found its way onto my iPod within minutes. Since then, I've been reliving the witty banter between KITT and Michael Knight, that discoesque soundtrack, and, of course, the thrilling action. The only downside is, now I can't get the theme song out of my head (www.itunes.com).—JENNIFER BERGER

Gmail File Space 0.2

Got a Gmail account with more spare megabytes than you know what to do with? Consider cannibalizing some of that unused space to store and transfer files with a makeshift FTP server. Rjonna's free Gmail File Space (gspace) 0.2 is a Firefox extension that lets

you view attachments in a different way, acting much



like a real FTP server. The best part is, the extension lets you overcome the standard 10MB e-mail attachment limit and upload larger files—just don't transfer more than 2GB of files in a day, or Google may disable your account for 24 hours (www.rjonna.com/ ext/).—cyrus farivar

Brought to you by John Moltz of the Crazy Apple Rumors Site (www.crazyapplerumors.com)

- Apple releases the 15.4-inch Intel Core Duo-based MacBook Pro. Shortly thereafter, the remaining members of the PowerBook G4 family were seen at a Cupertino Kinko's getting their resumes in order.
- Apple introduces iLife '06, which includes iWeb, a Web-site-creation tool. Al Gore's claims to have singlehandedly created iWeb are met with some skepticism.
- Apple unveils new iMacs with Intel Core Duo processors, describing them as "two times as fast." Recent iMac G5 purchasers respond by describing themselves as "two times as irritated."
- Wall Street analysts raise the outlook for Apple's stock to over \$100. Hmmm. Maybe we shouldn't have invested our retirement funds in 512MB iPod shuffles.

What the **Dormouse Said**

The next time you wonder, "Was this computer designed by someone on drugs?" I recommend

picking up a copy of What the Dormouse Said: How the 60s Counterculture Shaped the Personal Computer Industry (Viking Adult, 2005). In this book. New York *Times*



technology writer John Markoff explores the political, cultural, and, um, pharmaceutical forces that were afoot in the San Francisco Bay Area between 1962 and 1975 and how they helped shape the technology we use today. It's a groovy read, man (www.penguinputnam com),—SCHOLLE SAWYER McFARLAND



G-FORCE 3.1

One thing I love about watching live music is the way the visual component adds to the music. Recently I've also been enjoying SoundSpectrum's G-Force 3.1 iTunes visualizer. The free trial version provides hours of eye candy that responds to whatever you're listening to. The \$15 Gold version includes more visuals and displays album art; the \$30 Platinum version also adds a stand-alone app that works with any audio source, the ability to export the video as QuickTime movies, and more (www.soundspectrum.com).—JONATHAN SEFF





OWC Mercury On-The-Go 2.5" Portable Solutions from **\$129.99**

and now available up to 160GB! Up to 7200RPM high performance storage that will fit in a shirt pocket and with available FW800, FW400, & USB2 connectivity.











00000

CHOICE

The Mercury Elite Aluminum Pro FireWire/USB Single and Dual RAID, up to 1000GB (1 Terabyte) from \$129.99

Other World Computing

Excellent service | Competitive prices | Quality products | Expert tech staff |

Serving the Computer Universe since 1988

For all of your external storage needs call 800.275.4576 or visit macsales.com/storage

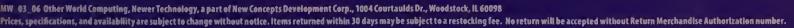


See the full line of OWC FireWire Solutions as well as solutions by LaCie,
Retuspect EZ Quest, SmartDisk, and Wiebetech
online at macsales.com/storage
All OWC Mercury and Neptune Model Solutions provide Ultra Quiet Operation and

utilize custom Oxford FireWire Bridge designs for high-performance and reliability Aii models are EMC/Dantz Retrospect Backup Certified and Include EMC Dantz Retrospect Backup software, intech HD Speedtools, all connecting cables, over 1GB of Mac Public Domain/Freeware/Shareware, other accessories specific to each model and either a 1yr or 2yr OWC Warranty.

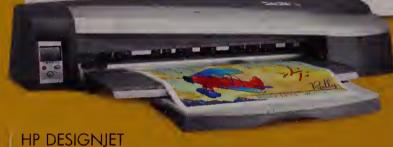






YOUR CREATIVE VISION ISN'T ALL THAT PRODUCES BIG, BRILLIANT OUTPUT.





130 SERIES PRINTER

\$1,295*

- · Output that resists fading for up to 200 years
- · Consistent color, print to print and printer to printer
- · Supports oversized output up to 24 in x 50 ft

It's simple. Big, brilliant ideas need output to match. The HP family of printers for creatives produces stunning results from postcard to poster-sized output, all with the affordability and convenience of inkjet printing. HP Designjet 90 and 130 series printers, with comprehensive color management capabilities for complete color control and consistency, deliver photo-quality output¹ print after print for color comps, layouts and mock-ups that look as dazzling as you envisioned them. The HP Photosmart 8750 series printer provides flexibility for creating realistic color and true black and white with long-lasting photo-quality prints1. And all three use HP Vivera Inks for our best in color vibrancy and longevity.

Get output to match your creativity. For additional information or to request a print sample, please visit www.hp.com/go/graphicdesign4.



HP PHOTOSMART 8750 PROFESSIONAL PHOTO PRINTER

\$499*

- · Output that resists fading for up to 200 years1
- · Realistic skin tones with 9-ink color
- · Supports oversized output up to 13 in x 19 in



HP DESIGNJET 90 SERIES PRINTER

- · Output that resists fading for up to 200 years1
- · Consistent color, print to print and printer to printer
- · Supports oversized output up to 18 in x 50 ft

Call **1-800-888-5757** Click hp.com/go/graphicdesign4 Visit www.hpshopping.com



*Estimated U.S. retail price, actual price may vary.

'Based on Wilhelm-Research.com testing (visit www.wilhelm-research.com for full details) for similar systems: For the HP Photosmart 8750, fade resistance is up to 108 years under glass or over 200 years in a photo album using the HP Tri-Color, the HP Gray Photo and the HP Blue Photo Inkjet Print Cartridges on HP Premium Plus Photo papers. For the HP Designjet 90 and HP Designjet 130, fade resistance is up to 82 years under glass or over 200 years in a photo album using the HP No. 85 Ink Cartridges on HP Premium Plus papers. For more information on additional permanence testing factors, visit http://hp.com/go/premiumplusphoto. © 2006 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. Some of the images are simulated.